

KPPD GROCERY BAG BASE-LINE
2nd HALF, 1994

THE INSTITUTE OF PAPER SCIENCE AND TECHNOLOGY

Atlanta, Georgia

CONTINUOUS BASE-LINE STUDY
DATA ON GROCERY BAG PAPER FOR JUL-AUG, SEP-OCT, NOV-DEC 1994)

Project 3880-95

Report Two

A Progress Report

to

THE KRAFT AND PACKAGING PAPERS DIVISION
OF THE
AMERICAN FOREST AND PAPER ASSOCIATION

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March 1, 1995

TABLE OF CONTENTS

SUMMARY AND TWO-YEAR TREND PLOTS	1
INTRODUCTION	21
PRESENTATION OF DATA	23
MONTHLY AVERAGES OF MILL DATA	
Table I-II-III	57 Lb
Table IV-V-VI	70 Lb
Table VII-VIII-IX	75 Lb
DATA ON CONDITIONING AND TESTING ENVIRONMENTS	
Table X	61
TEAR AND TENSILE TESTING VARIABLES	
Table XI	63
APPENDIX	65
Notes A and B	

Kraft and Packaging Papers Division
For Periods Jul-Aug, Sep-Oct, Nov-Dec 1994

SUMMARY

Grocery Bag

Moist @ reel
Percent

		JUL-AUG	SEP-OCT	NOV-DEC
57	Max	7.0	7.0	6.5
	Min	5.0	5.1	4.9
	Avg	5.9 (8)	5.8 (9)	5.8 (8)
	Stddev	.8	.7	.6
<hr/>				
70	Max	7.9	8.0	8.0
	Min	5.8	5.7	5.6
	Avg	6.5 (7)	6.5 (7)	6.5 (5)
	Stddev	.9	.8	.9
<hr/>				
75	Max	8.0	8.0	7.9
	Min	5.6	5.7	5.7
	Avg	6.5 (7)	6.5 (6)	6.3 (5)
	Stddev	.9	.9	.9

Note: Stddev is Standard Deviation of current machine averages.
Avg is Current KPPD average.
Number of machines is indicated in ().

Kraft and Packaging Papers Division
For Periods Jul-Aug, Sep-Oct, Nov-Dec 1994

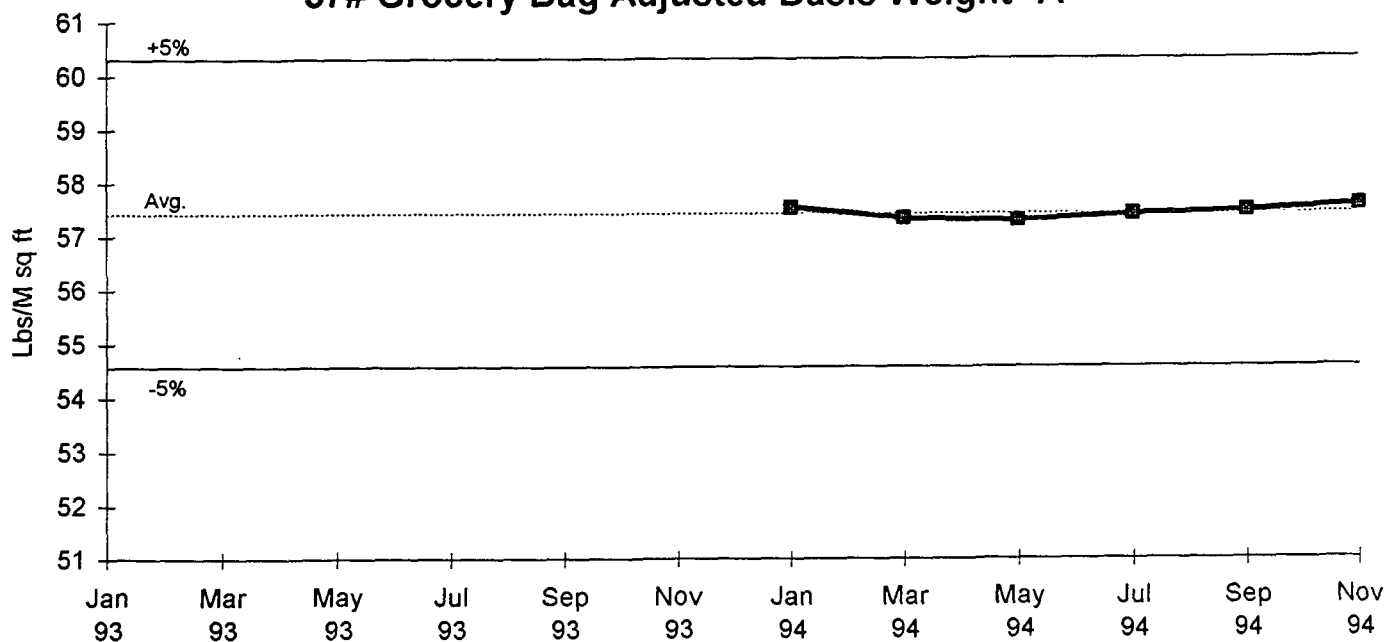
SUMMARY

Grocery Bag

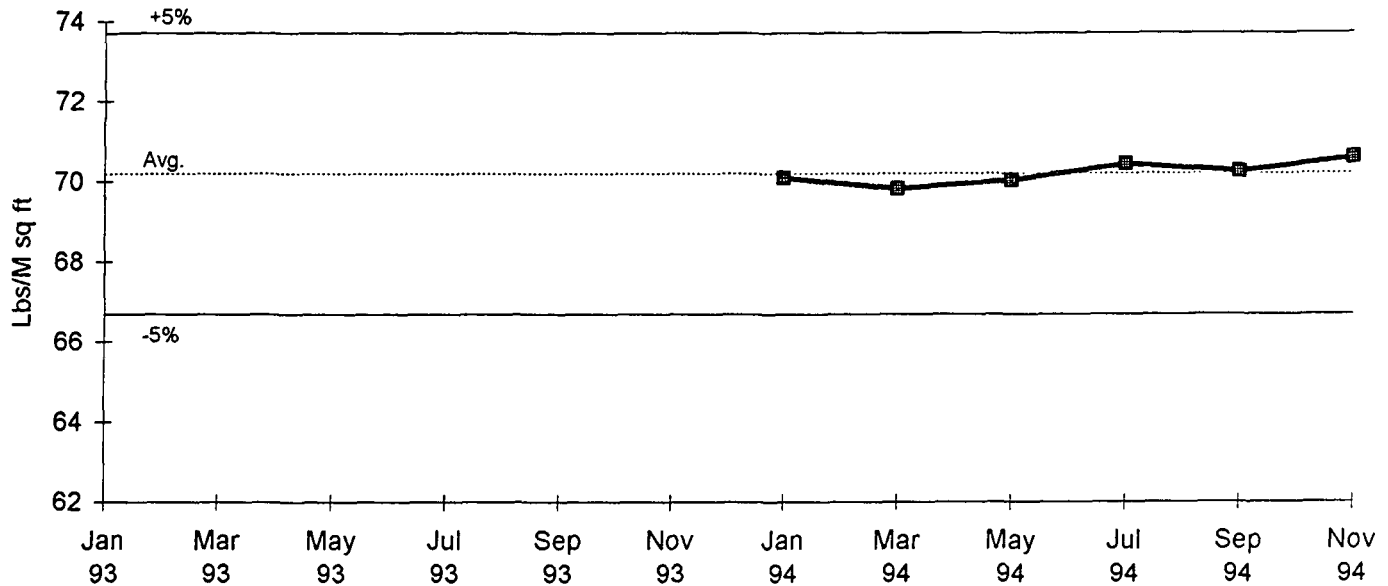
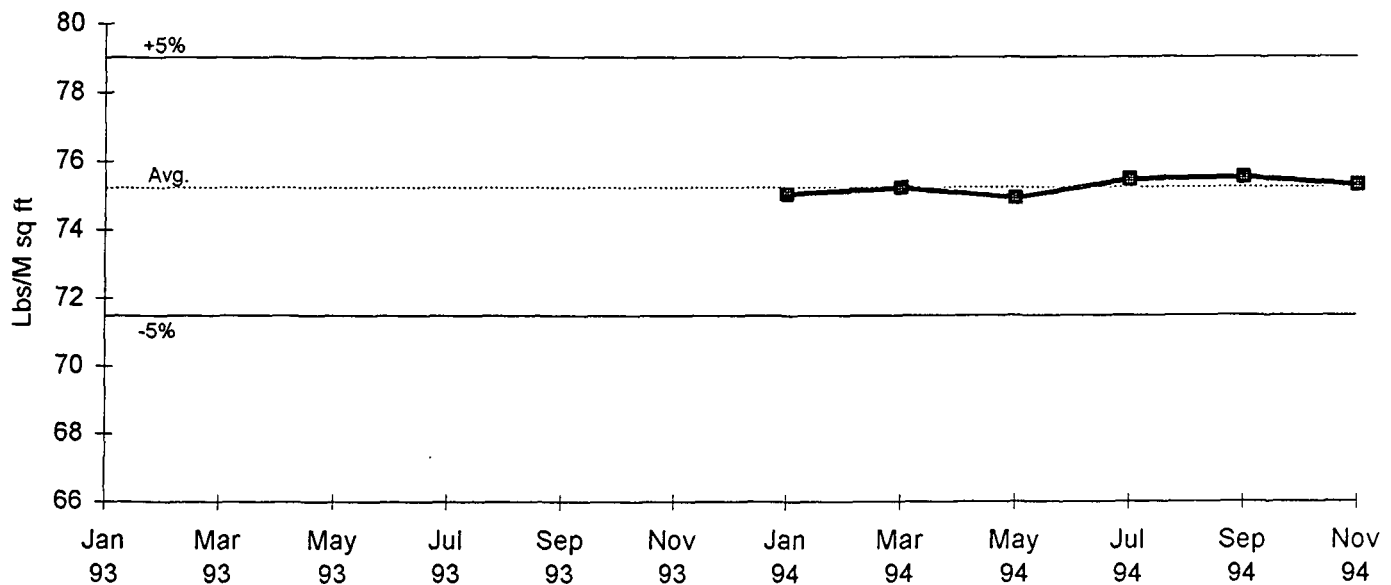
Adjusted Basis Weight *A
Lbs/M Sq Ft

		JUL-AUG	SEP-OCT	NOV-DEC
57	Max	58.3	59.5	58.9
	Min	56.8	55.9	56.4
	Avg	57.4 (8)	57.5 (9)	57.6 (8)
	Stddev	.5	1.0	.8
70	Max	71.0	71.5	71.3
	Min	69.3	67.9	69.9
	Avg	70.4 (6)	70.2 (6)	70.6 (4)
	Stddev	.6	1.2	.6
75	Max	76.3	77.4	76.2
	Min	74.5	74.3	74.5
	Avg	75.5 (6)	75.5 (5)	75.3 (4)
	Stddev	.7	1.3	.7

57# Grocery Bag Adjusted Basis Weight *A



Note: Stddev is Standard Deviation of current machine averages.
Avg is Current KPPD average.
Number of machines is indicated in ().
Note A is given in the appendix

70# Grocery Bag Adjusted Basis Weight *A**75# Grocery Bag Adjusted Basis Weight *A**

Note A is given in the appendix

Kraft and Packaging Papers Division
For Periods Jul-Aug, Sep-Oct, Nov-Dec 1994

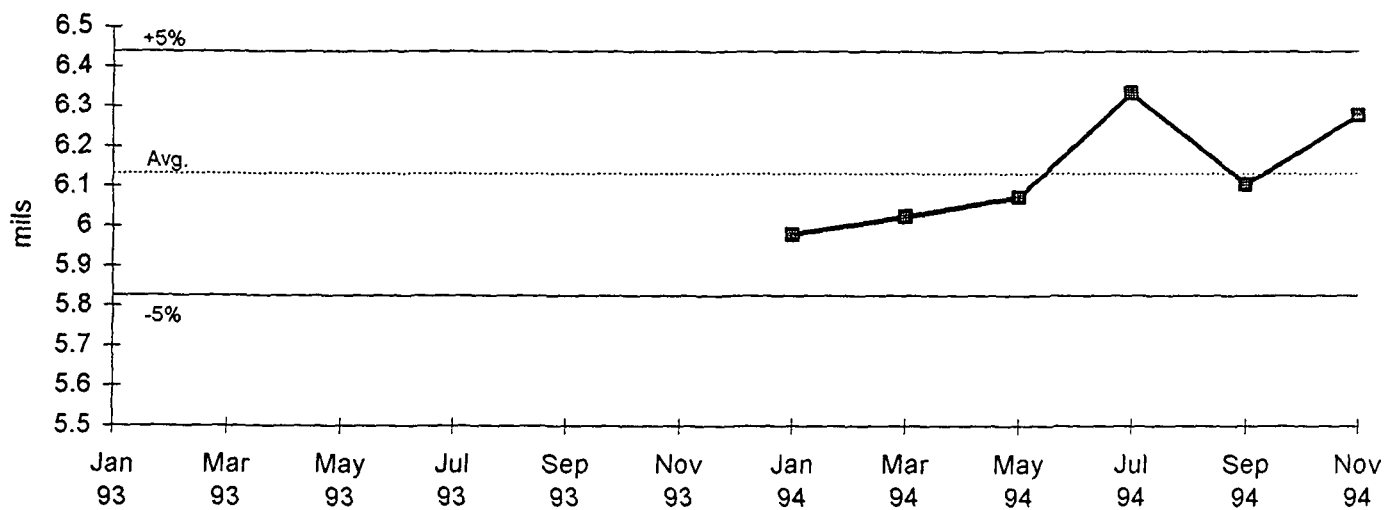
SUMMARY

Grocery Bag

Thickness
mils

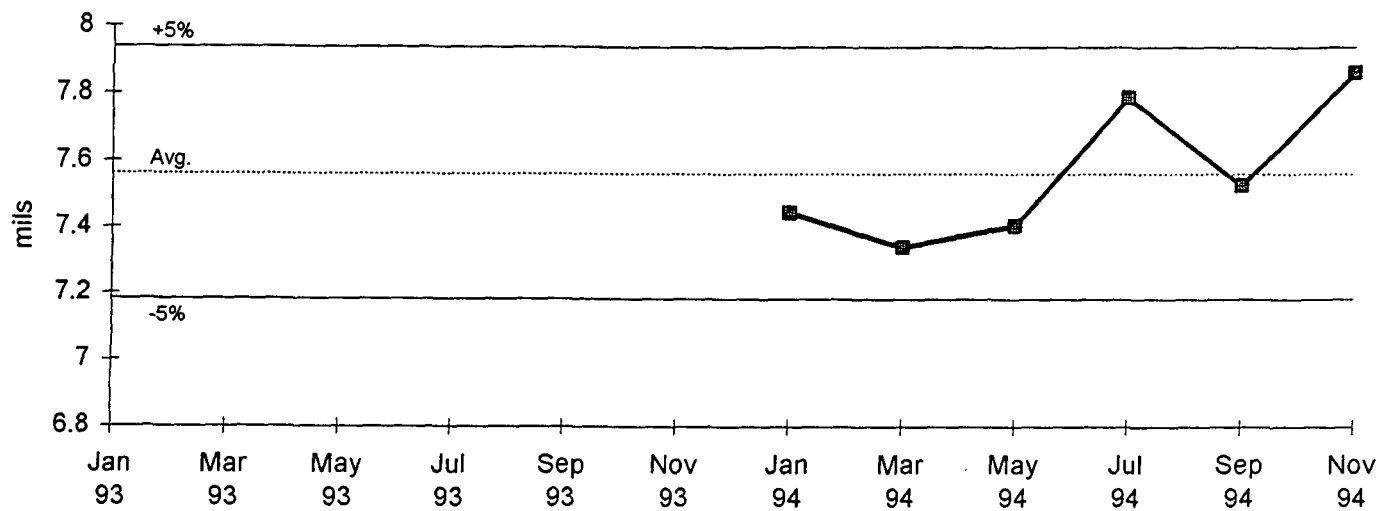
		JUL-AUG	SEP-OCT	NOV-DEC
57	Max	7.0	7.0	7.0
	Min	5.9	5.5	5.5
	Avg	6.3 (8)	6.1 (9)	6.3 (8)
	Stddev	.4	.4	.5
70	Max	8.7	8.4	8.6
	Min	7.0	6.7	7.1
	Avg	7.8 (7)	7.5 (7)	7.9 (5)
	Stddev	.6	.7	.5
75	Max	9.5	9.5	9.3
	Min	7.2	7.0	7.6
	Avg	8.4 (7)	8.3 (6)	8.4 (5)
	Stddev	.8	1.0	.6

57# Grocery Bag Thickness

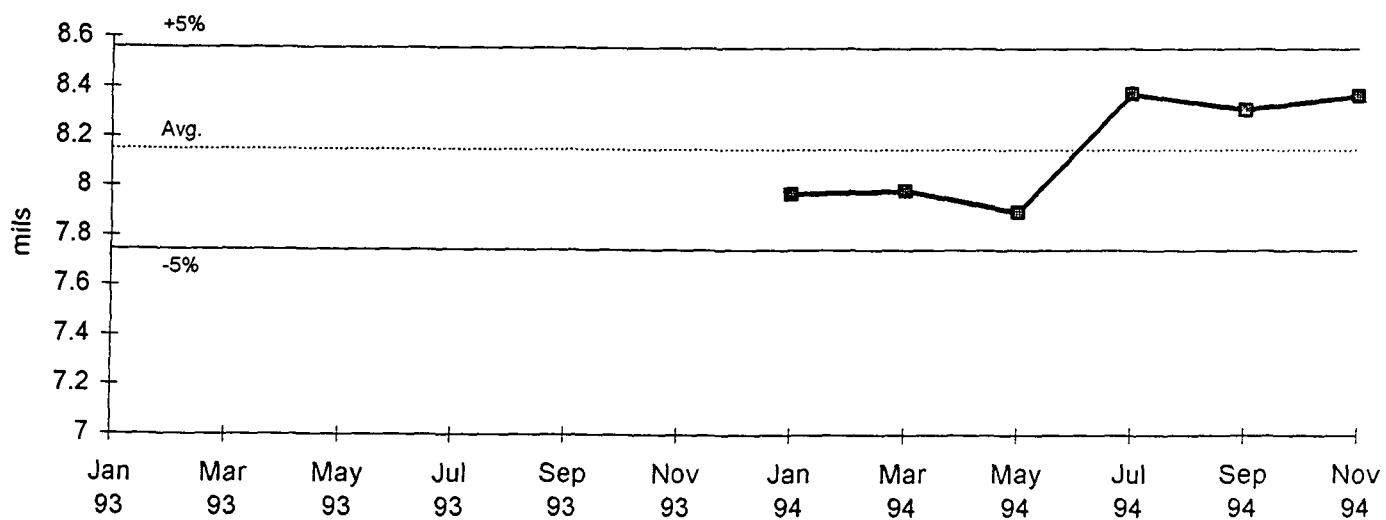


Note: Stddev is Standard Deviation of current machine averages.
Avg is Current KPPD average.
Number of machines is indicated in ().

70# Grocery Bag Thickness



75# Grocery Bag Thickness



Kraft and Packaging Papers Division
For Periods Jul-Aug, Sep-Oct, Nov-Dec 1994

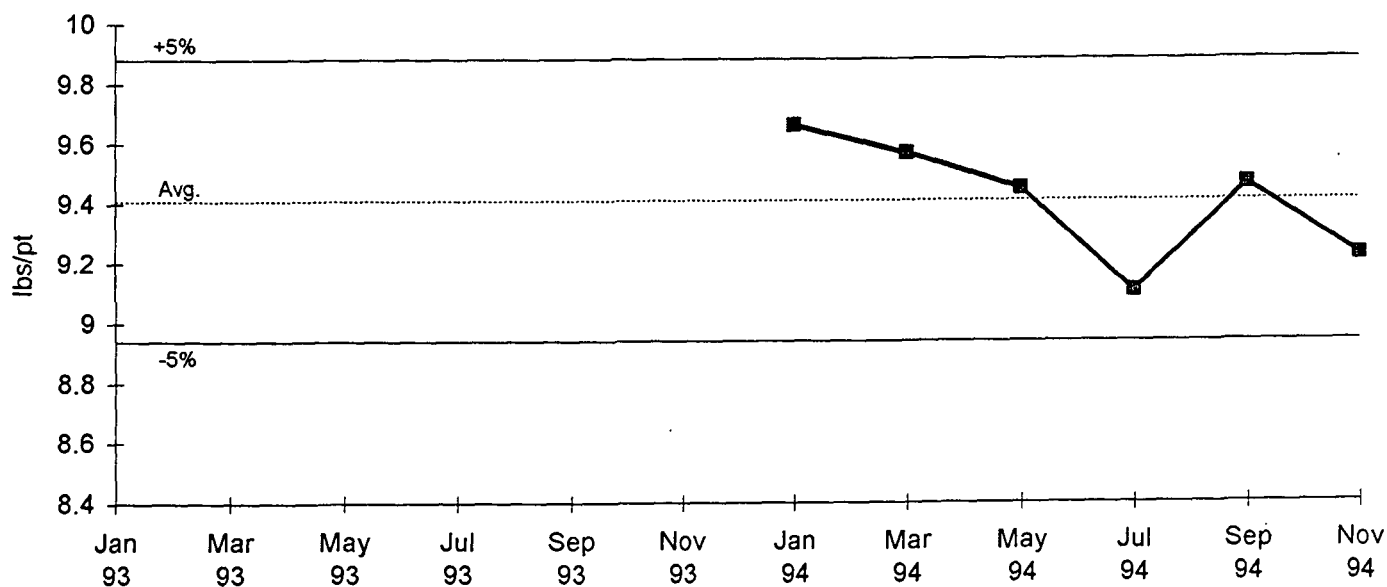
SUMMARY

Grocery Bag

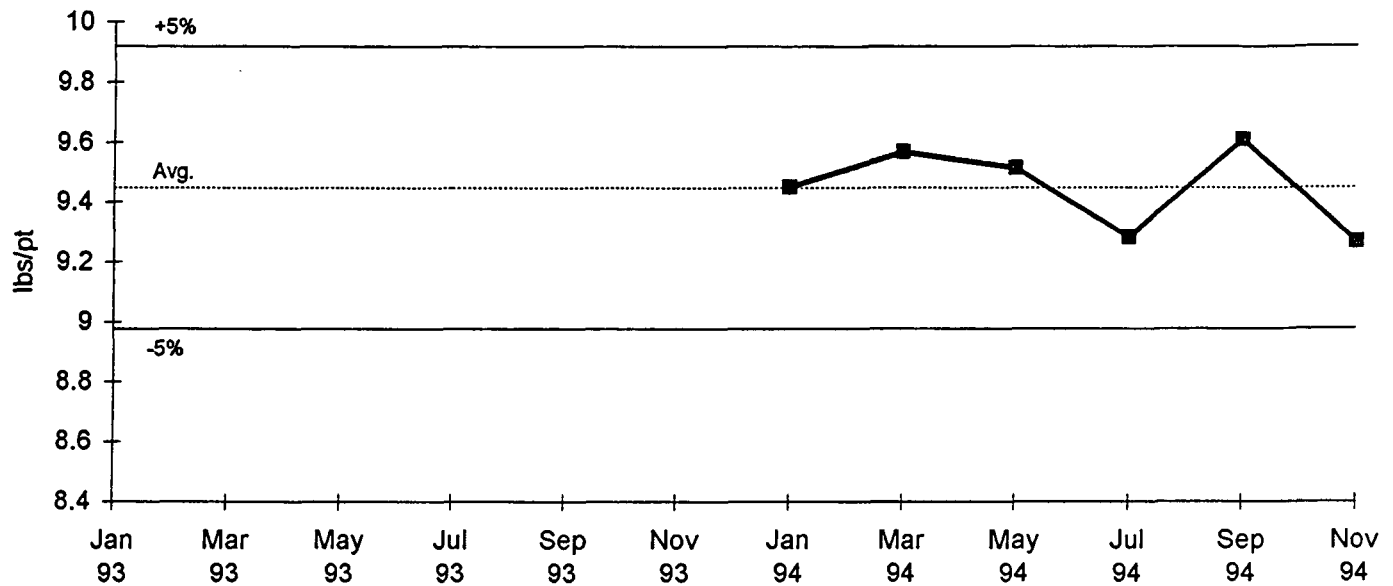
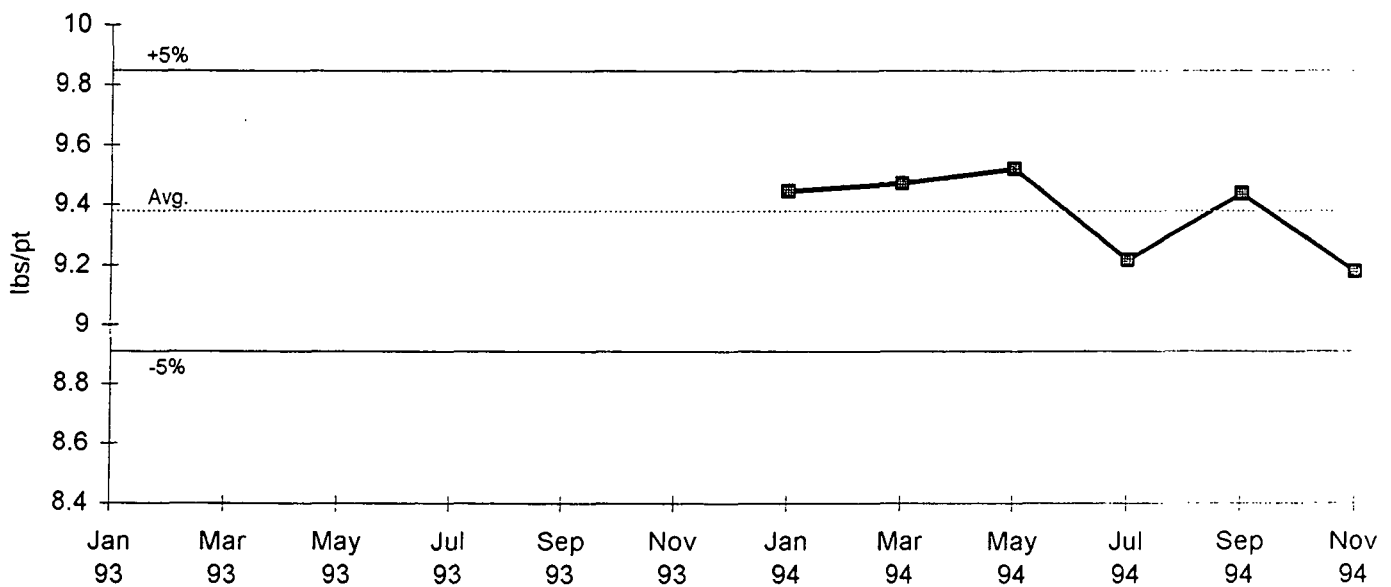
Apparent Density
lbs/pt

		JUL-AUG	SEP-OCT	NOV-DEC
57	Max	9.9	10.3	10.3
	Min	8.2	8.2	8.2
	Avg	9.1 (8)	9.5 (9)	9.2 (8)
	Stddev	.6	.6	.7
70	Max	10.2	10.6	10.1
	Min	8.5	8.5	9.0
	Avg	9.3 (6)	9.6 (6)	9.3 (4)
	Stddev	.6	.8	.5
75	Max	10.4	10.7	9.9
	Min	8.1	8.1	8.9
	Avg	9.2 (6)	9.4 (5)	9.2 (4)
	Stddev	.8	1.1	.4

57# Grocery Bag Apparent Density



Note: Stddev is Standard Deviation of current machine averages.
 Avg is Current KPPD average.
 Number of machines is indicated in ().

70# Grocery Bag Apparent Density**75# Grocery Bag Apparent Density**

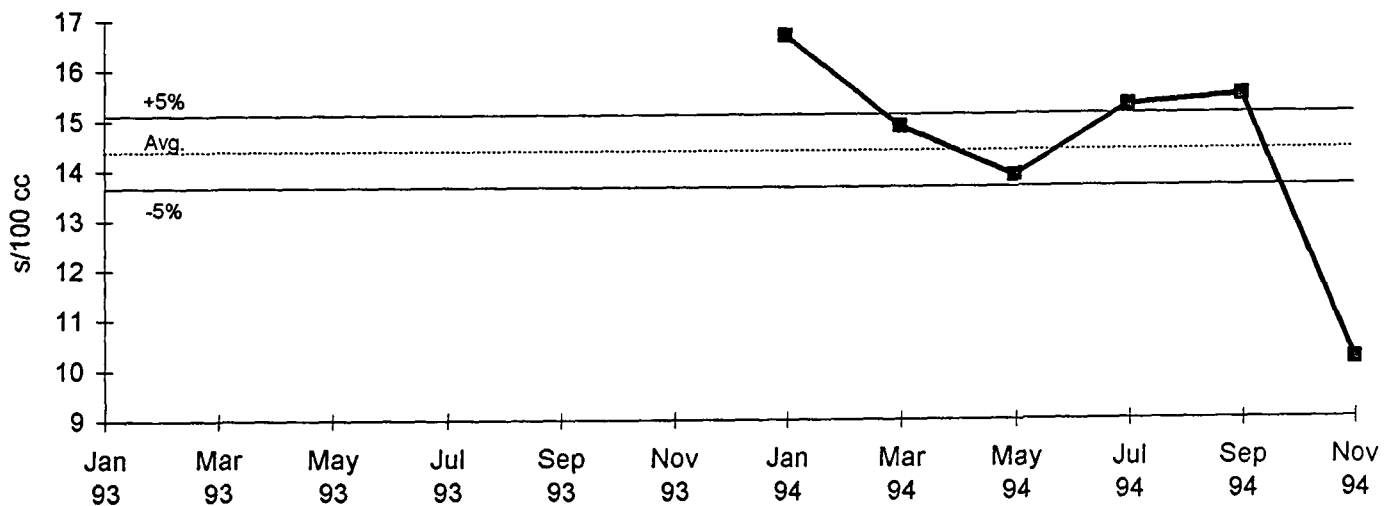
Kraft and Packaging Papers Division
For Periods Jul-Aug, Sep-Oct, Nov-Dec 1994

SUMMARY

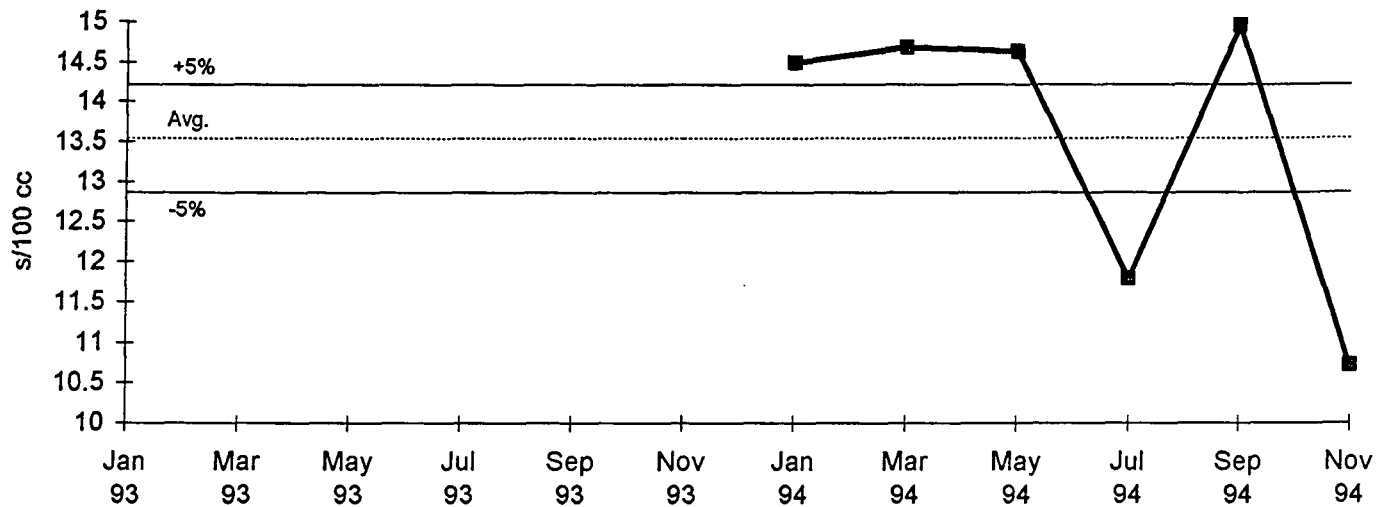
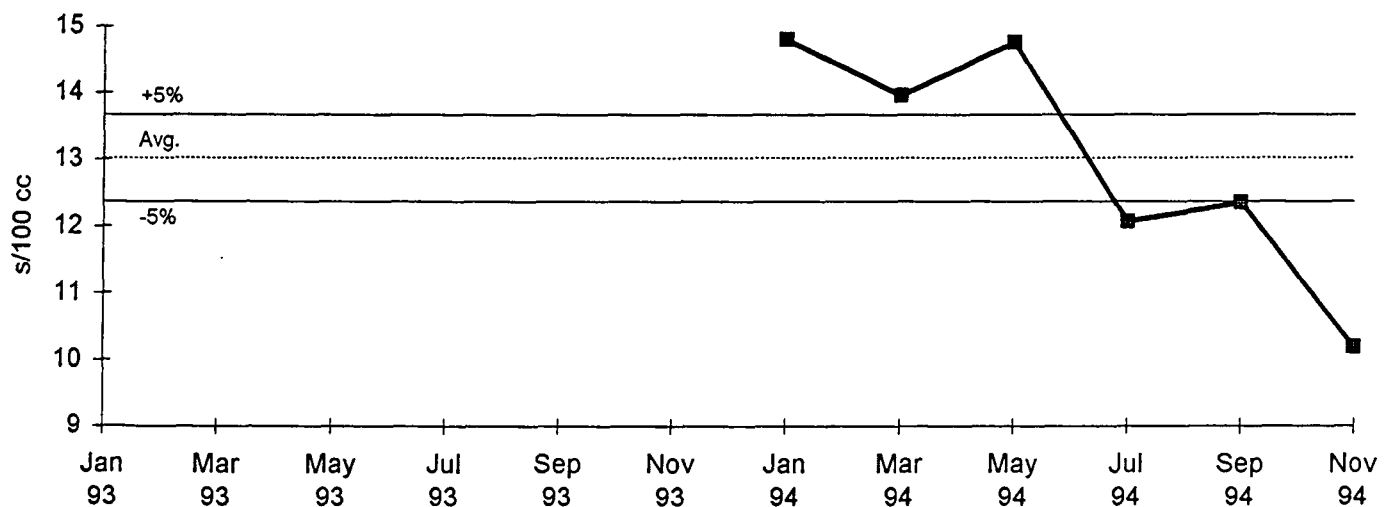
Grocery Bag

Porosity
s/100 cc

		JUL-AUG	SEP-OCT	NOV-DEC
57	Max	34.2	38.8	18.6
	Min	6.0	6.5	5.5
	Avg	15.3 (7)	15.5 (8)	10.2 (7)
	Stddev	9.4	10.6	5.5
70	Max	19.6	25.9	20.5
	Min	8.5	6.8	7.0
	Avg	11.8 (5)	15.0 (5)	10.7 (4)
	Stddev	4.6	9.2	6.1
75	Max	19.9	26.8	18.4
	Min	6.5	5.5	5.8
	Avg	12.1 (5)	12.3 (4)	10.2 (4)
	Stddev	5.8	10.2	5.7

57# Grocery Bag Porosity

Note: Stddev is Standard Deviation of current machine averages.
Avg is Current KPPD average.
Number of machines is indicated in ().

70# Grocery Bag Porosity**75# Grocery Bag Porosity**

Kraft and Packaging Papers Division
For Periods Jul-Aug, Sep-Oct, Nov-Dec 1994

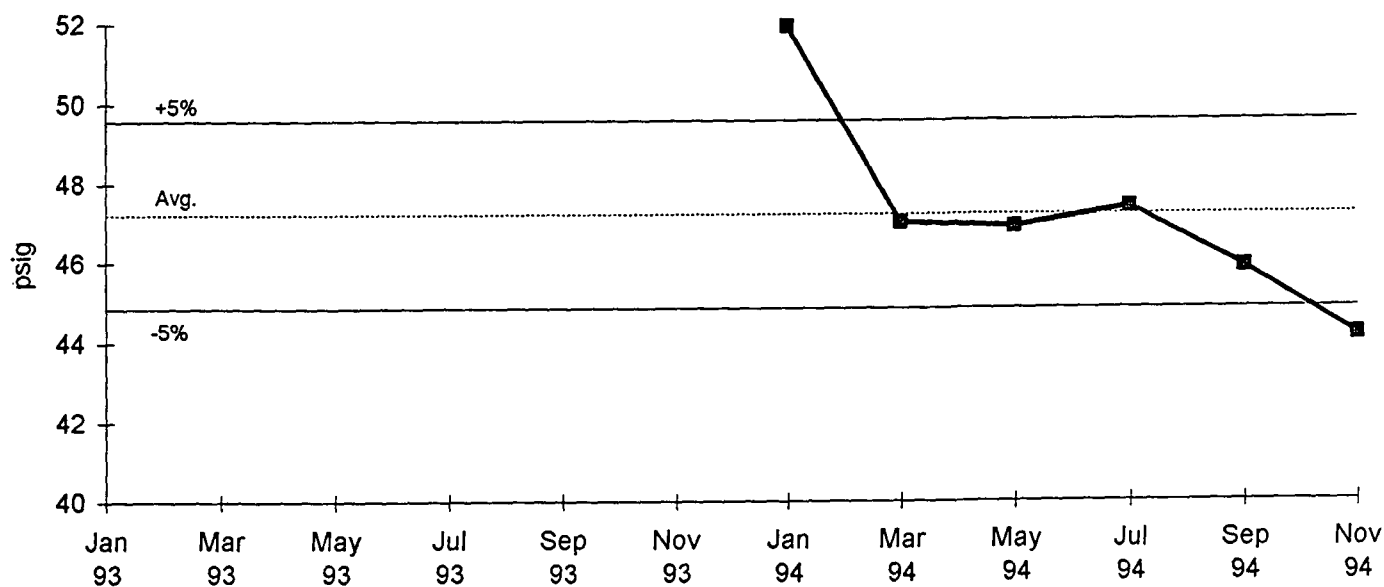
SUMMARY

Grocery Bag

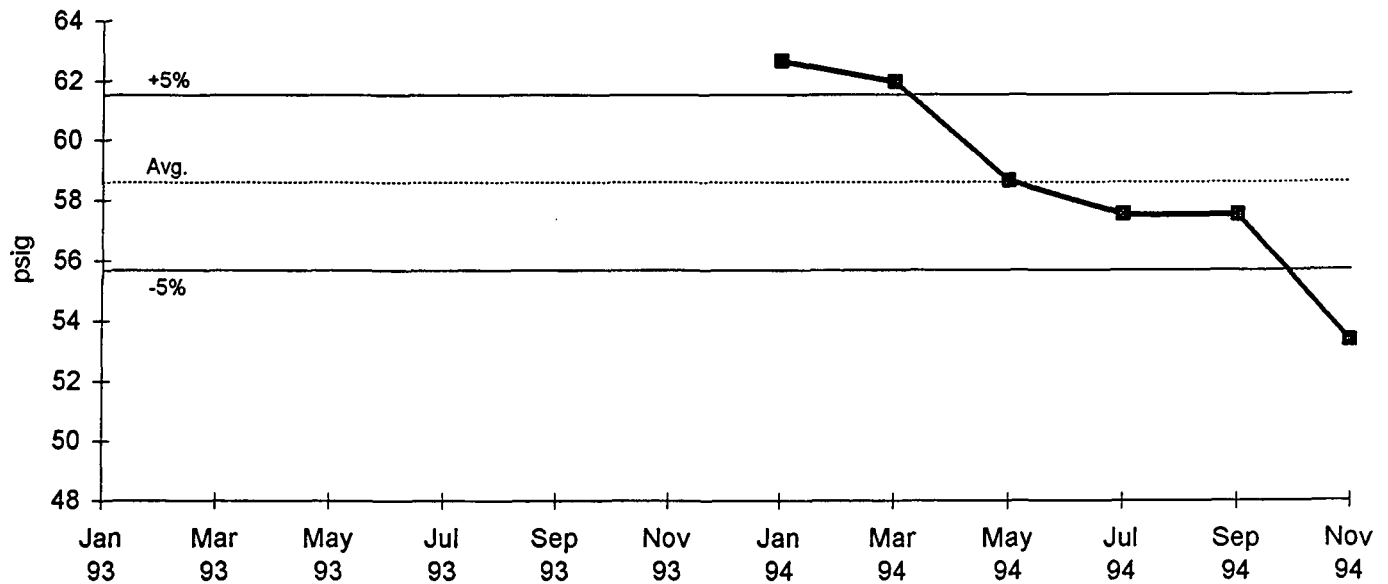
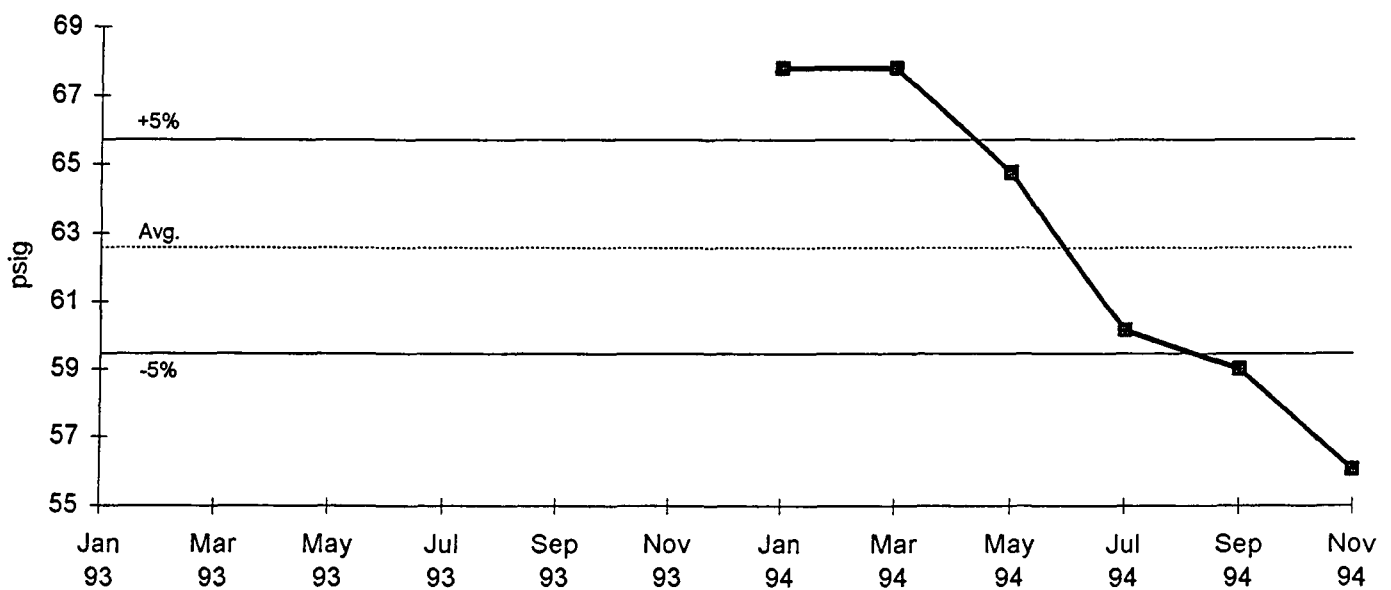
Burst
psig

		JUL-AUG	SEP-OCT	NOV-DEC
57	Max	59.0	54.3	53.3
	Min	37.8	38.1	38.2
	Avg	47.4 (8)	45.9 (8)	44.2 (8)
	Stddev	7.6	5.8	4.7
70	Max	67.7	67.6	58.5
	Min	49.0	51.5	49.8
	Avg	57.5 (7)	57.5 (7)	53.3 (5)
	Stddev	7.1	6.3	3.4
75	Max	66.7	70.8	60.0
	Min	54.0	54.5	54.0
	Avg	60.2 (7)	59.0 (6)	56.1 (5)
	Stddev	4.8	6.0	2.4

57# Grocery Bag Burst



Note: Stddev is Standard Deviation of current machine averages.
Avg is Current KPPD average.
Number of machines is indicated in ().

70# Grocery Bag Burst**75# Grocery Bag Burst**

Kraft and Packaging Papers Division
For Periods Jul-Aug, Sep-Oct, Nov-Dec 1994

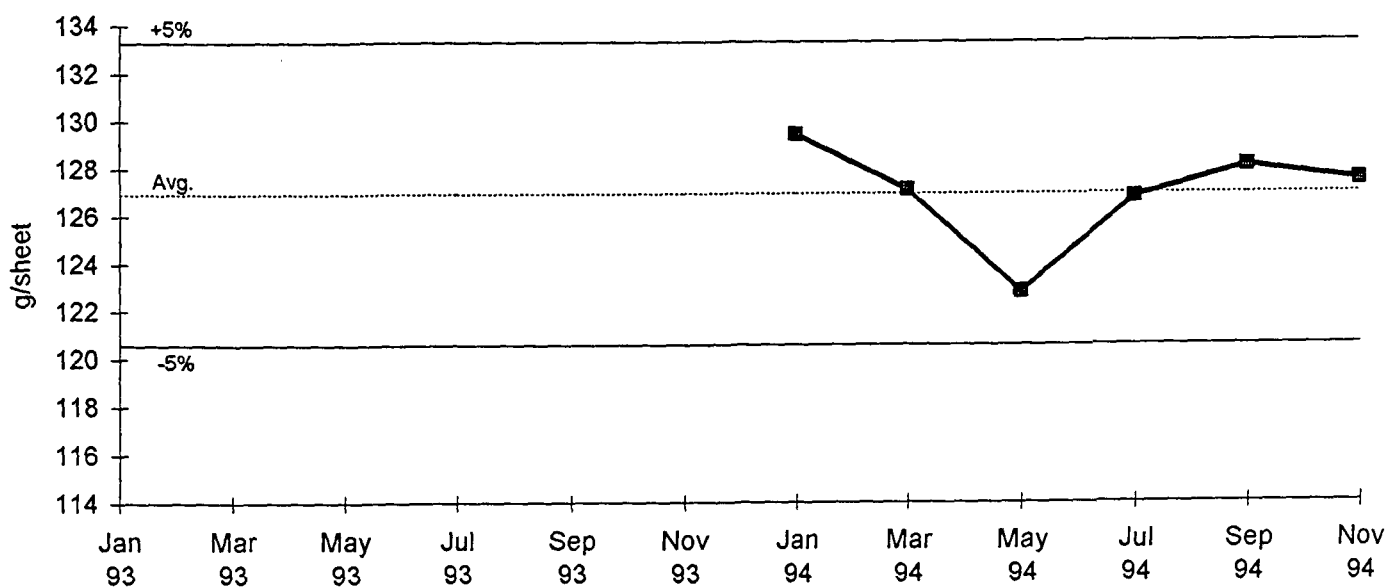
SUMMARY

Grocery Bag

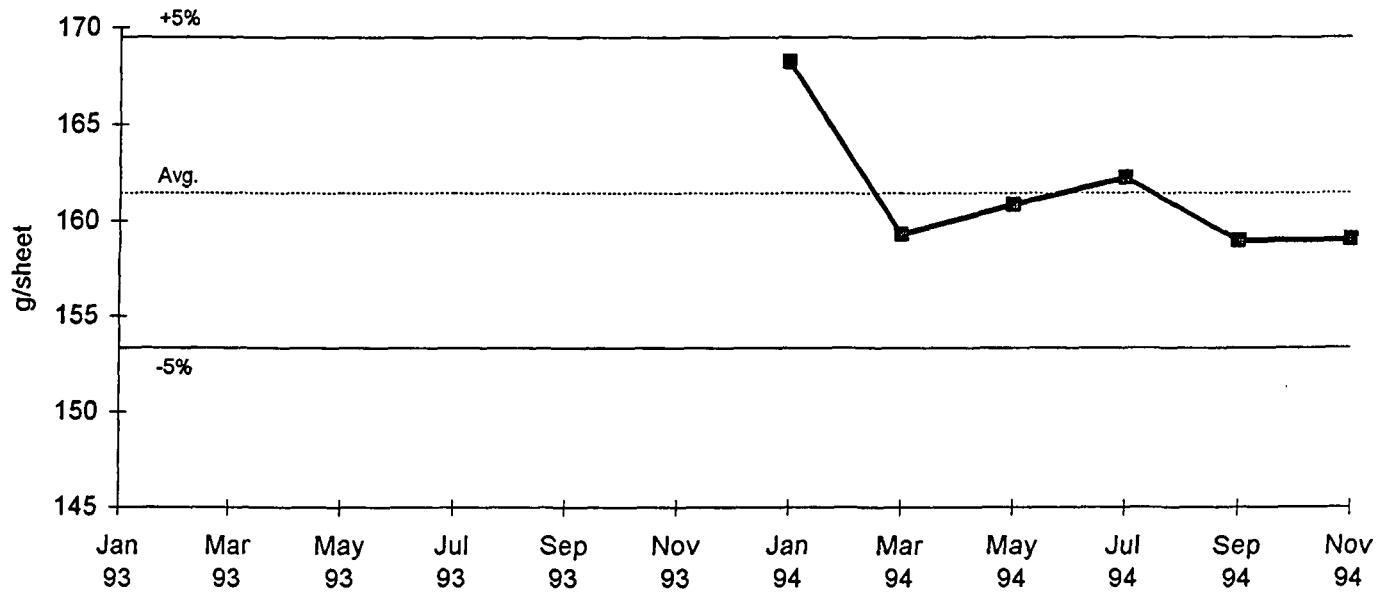
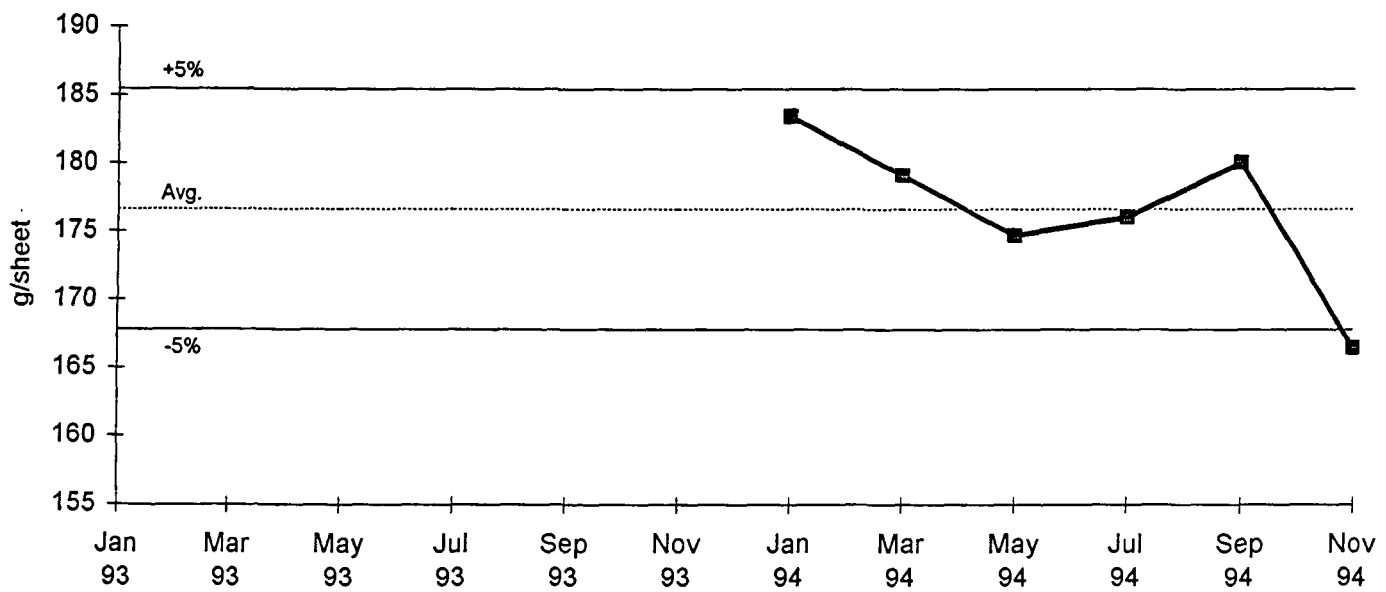
MD Tear
g/sheet

		JUL-AUG	SEP-OCT	NOV-DEC
57	Max	155.6	151.5	143.0
	Min	111.0	113.3	113.0
	Avg	126.8 (8)	128.1 (9)	127.5 (8)
	Stddev	14.5	10.9	10.7
70	Max	197.7	185.0	165.0
	Min	149.5	145.0	152.3
	Avg	162.2 (7)	159.0 (7)	159.0 (5)
	Stddev	16.5	14.8	6.0
75	Max	219.0	241.1	172.5
	Min	161.0	158.0	160.0
	Avg	176.1 (7)	180.1 (6)	166.4 (5)
	Stddev	19.9	30.0	5.7

57# Grocery Bag MD Tear



Note: Stddev is Standard Deviation of current machine averages.
Avg is Current KPPD average.
Number of machines is indicated in ().

70# Grocery Bag MD Tear**75# Grocery Bag MD Tear**

Kraft and Packaging Papers Division
For Periods Jul-Aug, Sep-Oct, Nov-Dec 1994

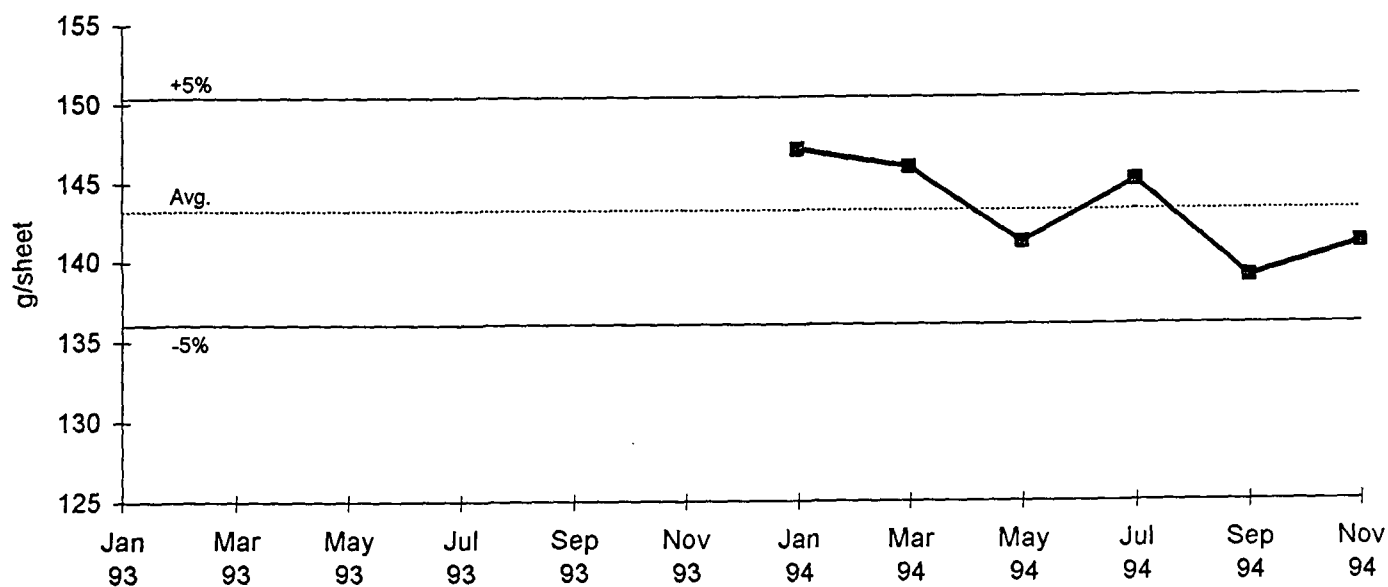
SUMMARY

Grocery Bag

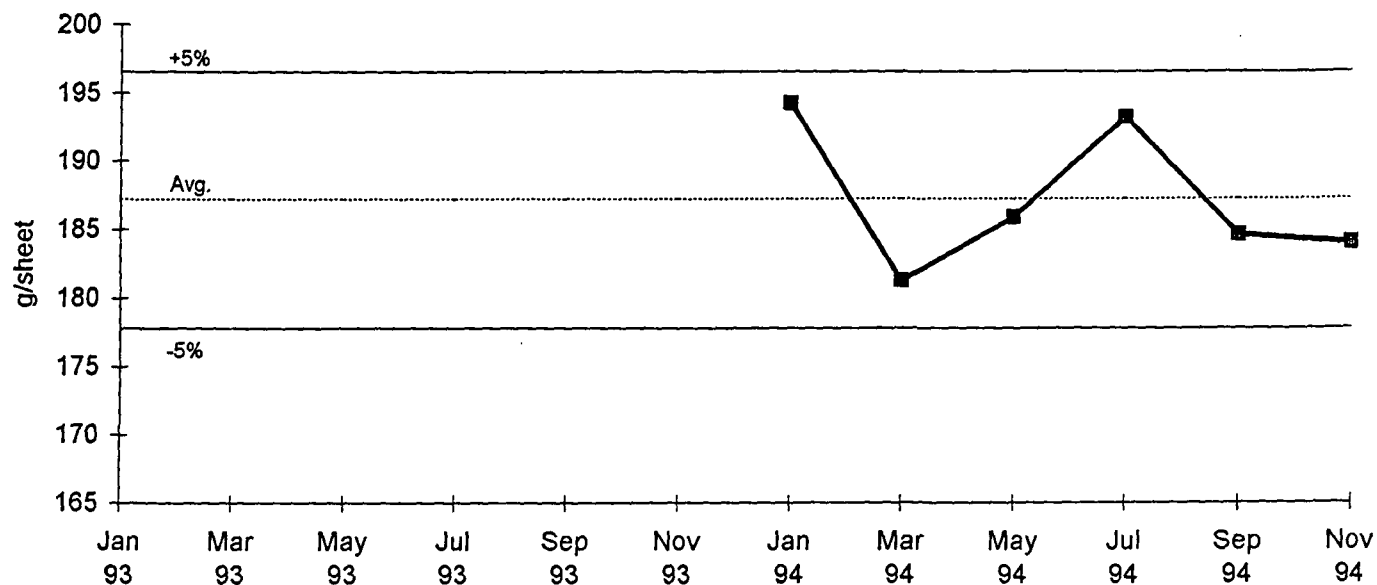
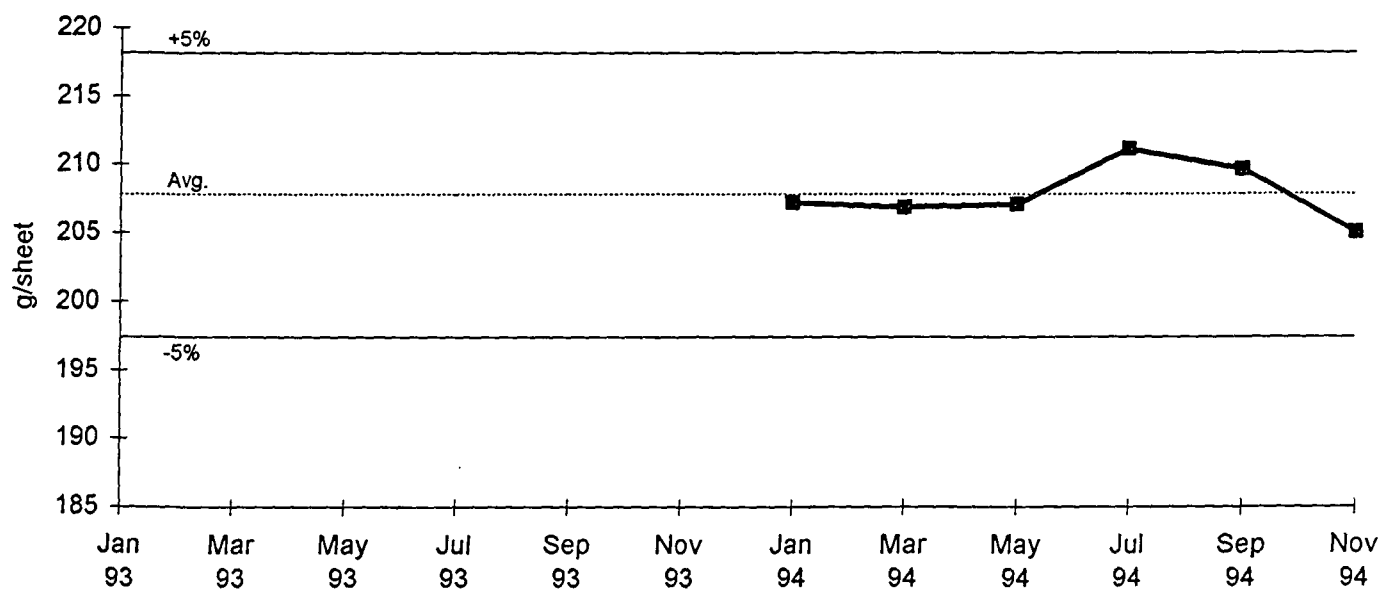
CD Tear
g/sheet

		JUL-AUG	SEP-OCT	NOV-DEC
57	Max	162.6	154.9	155.6
	Min	130.0	125.9	119.8
	Avg	145.1 (8)	139.0 (9)	141.1 (8)
	Stddev	10.1	9.8	12.1
70	Max	216.5	215.3	211.9
	Min	177.0	158.0	165.5
	Avg	193.2 (6)	184.6 (6)	184.0 (4)
	Stddev	13.7	18.9	21.3
75	Max	238.7	248.9	239.9
	Min	188.5	185.6	174.0
	Avg	211.1 (6)	209.6 (5)	205.0 (4)
	Stddev	22.2	29.4	28.2

57# Grocery Bag CD Tear



Note: Stddev is Standard Deviation of current machine averages.
Avg is Current KPPD average.
Number of machines is indicated in ().

70# Grocery Bag CD Tear**75# Grocery Bag CD Tear**

Kraft and Packaging Papers Division
For Periods Jul-Aug, Sep-Oct, Nov-Dec 1994

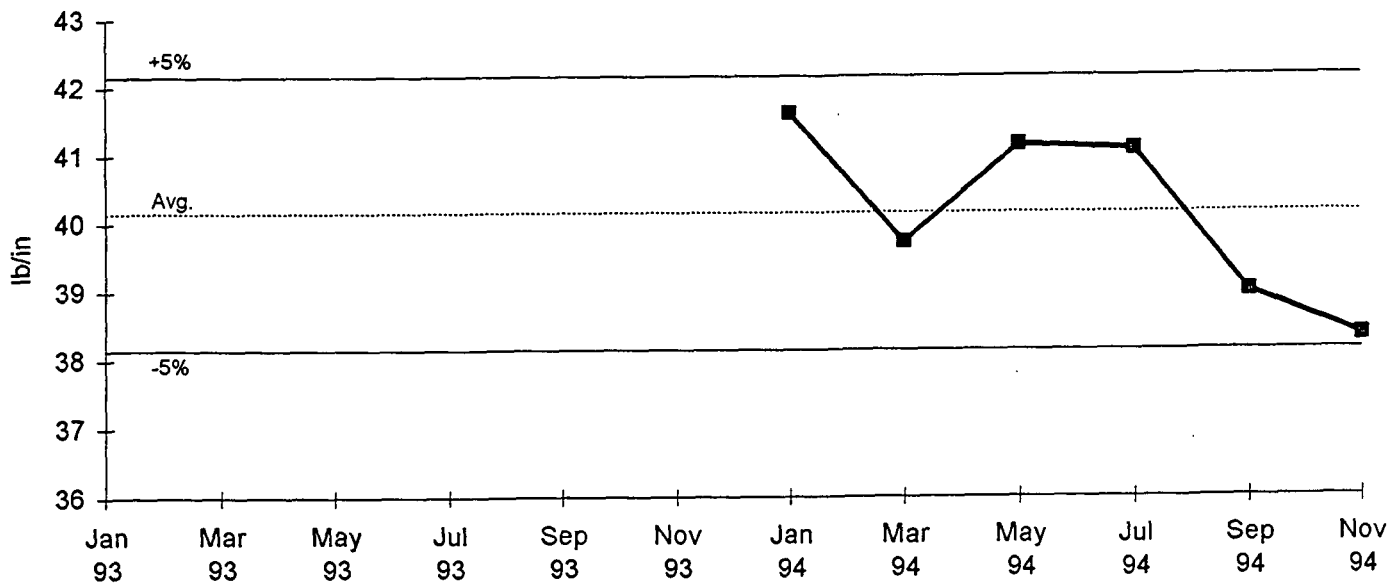
SUMMARY

Grocery Bag

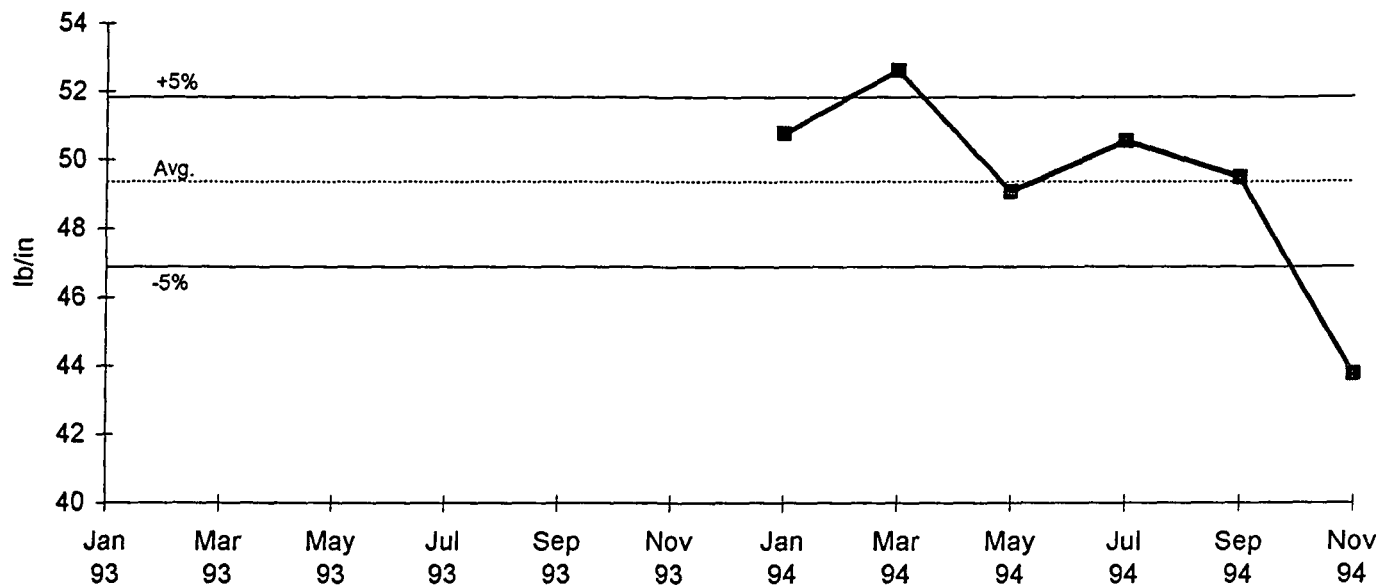
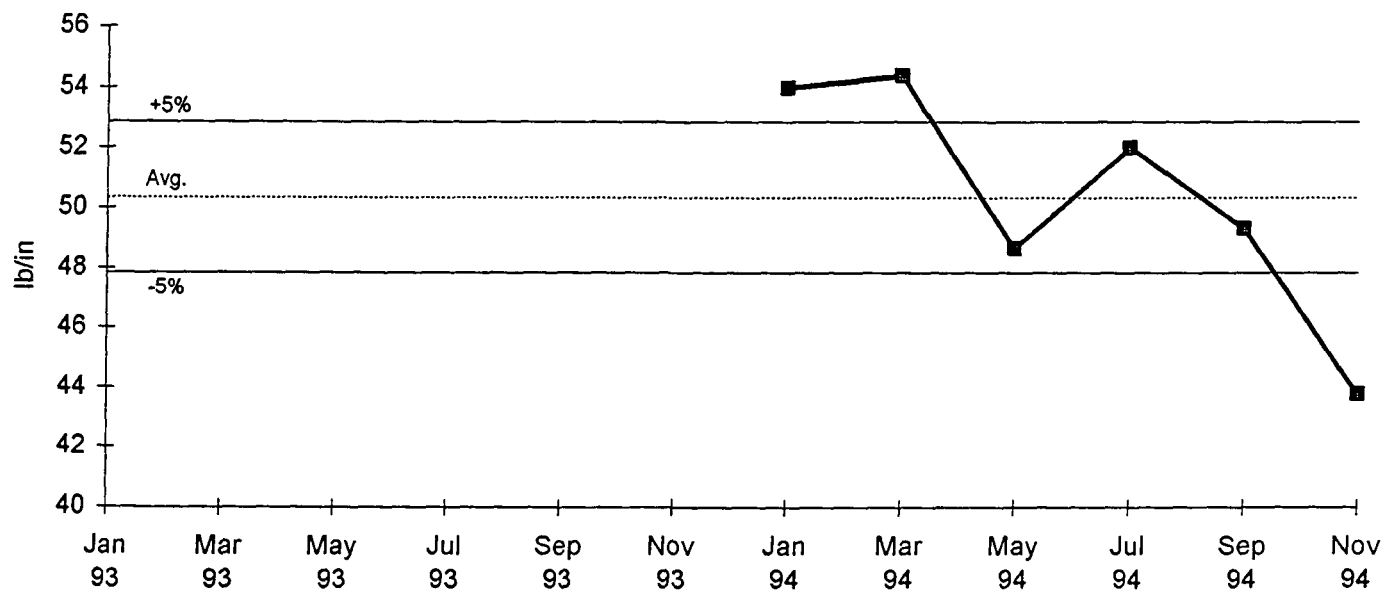
MD Tensile
lb/in

		JUL-AUG	SEP-OCT	NOV-DEC
57	Max	45.1	41.5	41.6
	Min	36.6	36.0	34.5
	Avg	41.1 (6)	39.0 (7)	38.3 (6)
	Stddev	3.4	2.0	2.3
70	Max	60.8	58.9	47.1
	Min	41.0	42.7	41.0
	Avg	50.6 (4)	49.5 (4)	43.8 (3)
	Stddev	8.8	7.1	3.2
75	Max	56.8	50.1	45.1
	Min	47.1	48.5	43.0
	Avg	52.0 (4)	49.3 (2)	43.8 (3)
	Stddev	4.1	1.2	1.1

57# Grocery Bag MD Tensile



Note: Stddev is Standard Deviation of current machine averages.
Avg is Current KPPD average.
Number of machines is indicated in ().

70# Grocery Bag MD Tensile**75# Grocery Bag MD Tensile**

Kraft and Packaging Papers Division
For Periods Jul-Aug, Sep-Oct, Nov-Dec 1994

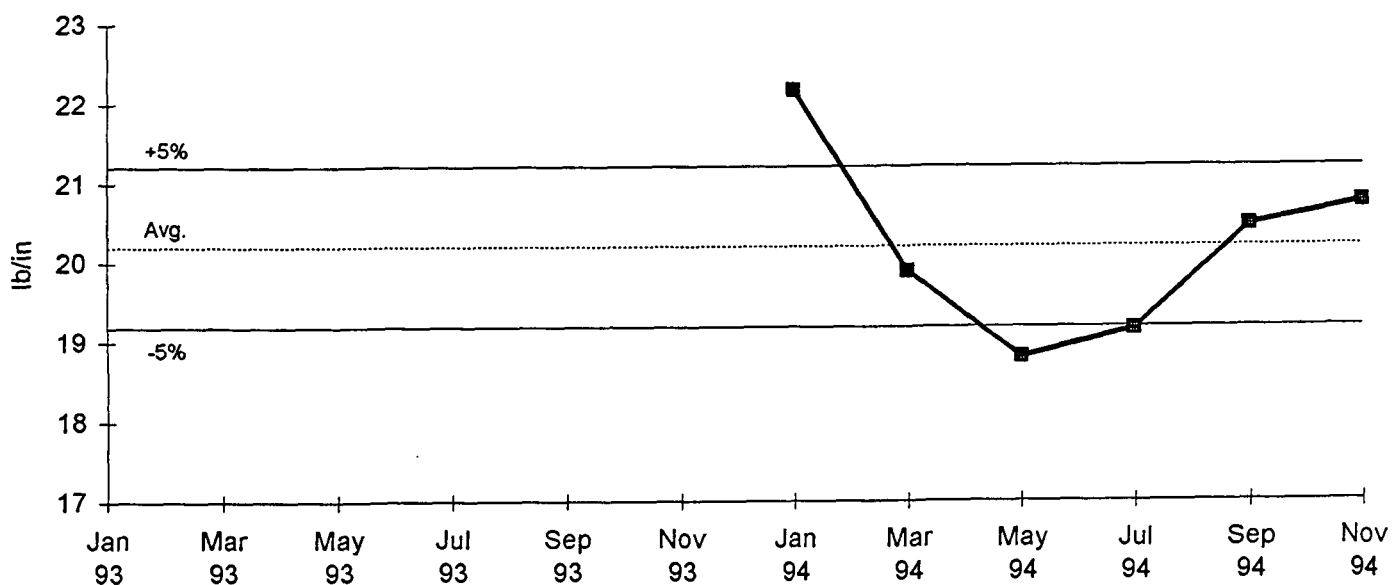
SUMMARY

Grocery Bag

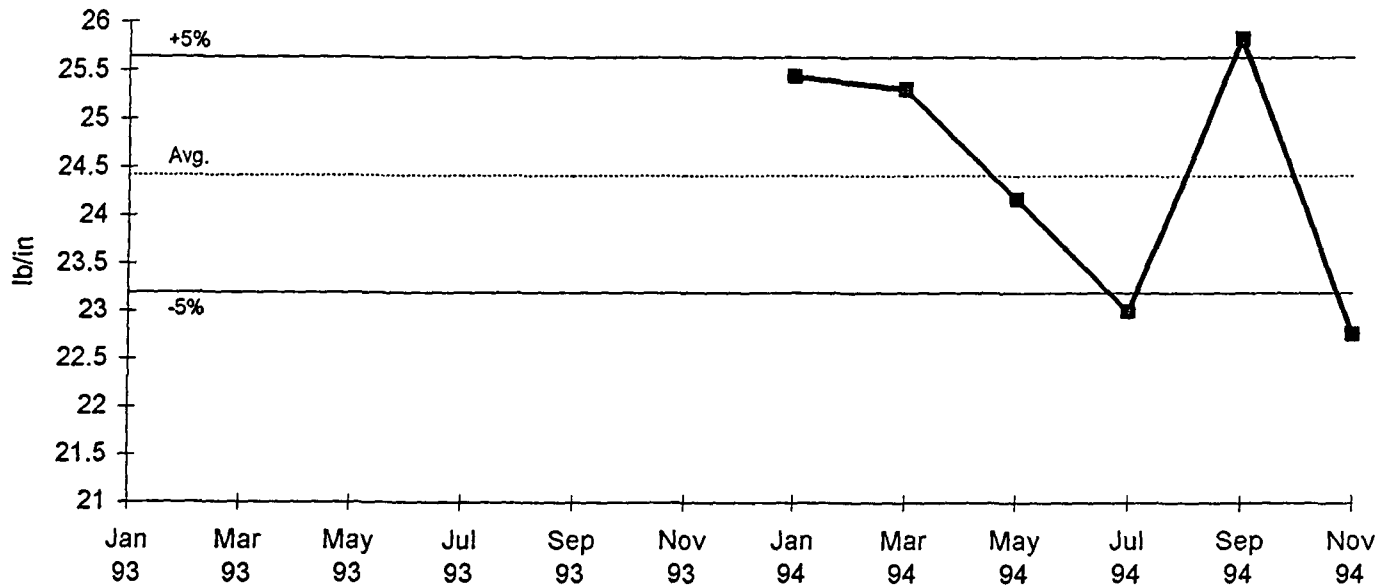
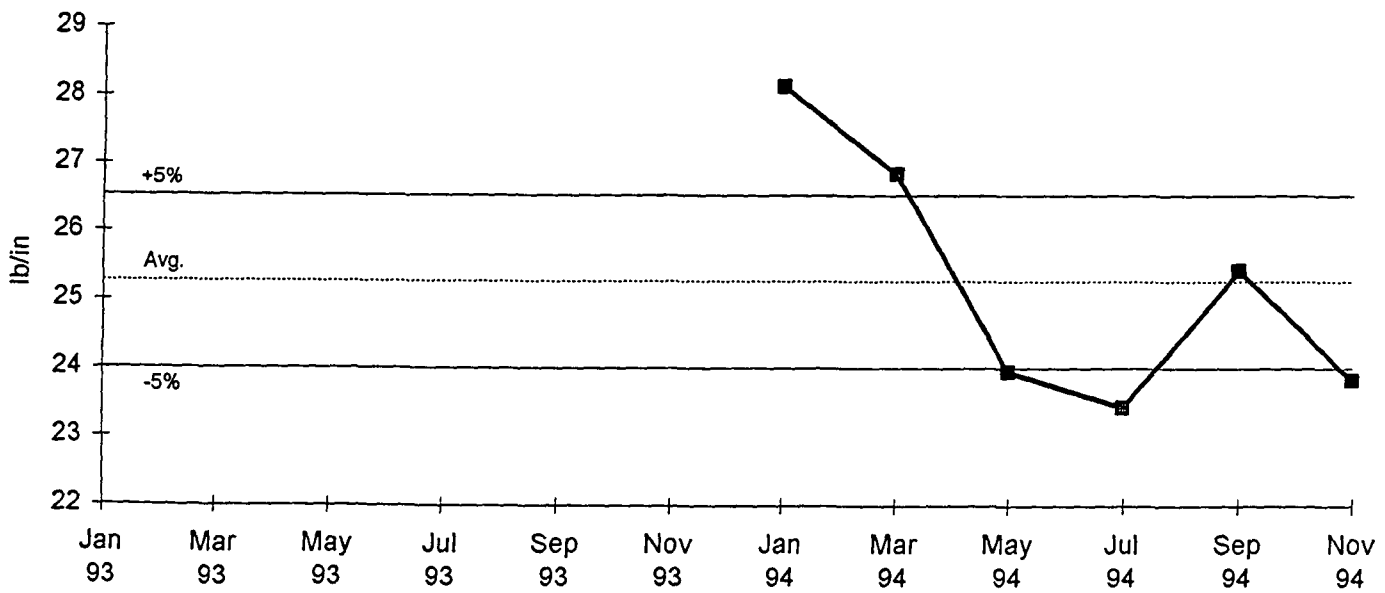
CD Tensile
lb/in

		JUL-AUG	SEP-OCT	NOV-DEC
57	Max	21.8	27.4	23.2
	Min	17.0	18.0	18.3
	Avg	19.2 (6)	20.5 (7)	20.7 (6)
	Stddev	1.8	3.5	2.2
70	Max	27.9	31.7	24.1
	Min	17.0	22.0	22.0
	Avg	23.0 (4)	25.8 (4)	22.8 (3)
	Stddev	4.5	4.9	1.1
75	Max	30.6	27.9	25.0
	Min	19.0	23.0	22.5
	Avg	23.4 (4)	25.4 (2)	23.8 (3)
	Stddev	4.9	3.4	1.3

57# Grocery Bag CD Tensile



Note: Stddev is Standard Deviation of current machine averages.
Avg is Current KPPD average.
Number of machines is indicated in ().

70# Grocery Bag CD Tensile**75# Grocery Bag CD Tensile**

INTRODUCTION

The continuous base-line study is a compilation of monthly averages of mill test data obtained routinely on three major grade weights of grocery bag paper manufactured in the mills of KPPD members and other participating mills. Data are included for individuals machines which produced at least 50 tons of one of the following three major grade weights during a given two-month period: 57, 70, and 75 lbs.

Mill data are included for reel moisture content, basis weight, thickness, density, porosity, burst, MD tear, CD tear, MD tensile, and CD tensile.

Participating mills are asked to report reel moisture content, basis weight, and moisture content corresponding to the basis weight measurement (if different than reel moisture). An adjusted basis weight is then calculated corresponding to a moisture content of 7.25% (AD basis). Only the reel moisture content and the adjusted basis weights are included in the report.

The type of tear tester (old or new style) and the type of tensile tester (T404 or T494) is given in Table XI. Studies on multiwall bag paper (Report One of Project 3679, January 5, 1994) show that the relationships between results for these different procedures are:

$$\text{Tear (old)} = 1.06 \text{ Tear (new)}$$

$$\text{CD tensile (T404)} = 1.02 \text{ CD tensile (T494)}$$

$$\text{MD tensile (T404)} = 1.00 \text{ MD tensile (T494)}$$

No adjustments were made for any data included in this report. The types of testers used by each laboratory (Table XI) and the above relationships are included in this report for information only.

PRESENTATION OF DATA

For the three major grade weights of grocery bag paper referred to earlier, mill test averages for reel moisture content, adjusted basis weight, thickness, density, porosity, burst, MD tear, CD tear, MD tensile, and CD tensile are compiled in the following tables:

<u>Table Number</u>	<u>Description</u>
I-II-III	Mill Data on 57 lb Grocery Bag
IV-V-VI	Mill Data on 70 lb Grocery Bag
VII-VIII-IX	Mill Data on 75 lb Grocery Bag

Data submitted by the participating mills relative to conditioning and testing environments are summarized in Table X. Data submitted relative to tear and tensile variables are summarized in Table XI.

The procedures used in calculating adjusted basis weight, cumulative machine averages, machines indexes, and KPPD indexes are described in the appendix.

Table I

AVERAGES OF MILL QUALITY DATA FOR JUL-AUG 1994 Grocery Bag 57 #

Code	Moist @ reel Percent			Adjusted Basis Weight *A Lbs/M Sq Ft			Thickness mils		
	Cur Avg	Cum Avg	Ind *B	Cur Avg	Cum Avg	Ind *B	Cur Avg	Cum Avg	Ind *B
A8	5.3	5.3	89.8	57.7	57.3	100.5	6.2	6.1	101.6
B3	7.0	6.9	118.6	56.9	56.7	99.1	6.7	6.4	109.8
B4	5.3	5.3	89.8	58.0	57.9	101.0	6.4	6.3	104.9
E0	6.8	6.6	115.3	57.7	57.7	100.5	6.2	6.0	101.6
I3	5.7	5.7	96.6	56.9	56.7	99.1	7.0	6.8	114.8
S9	5.0	4.9	84.7	58.3	58.3	101.6	5.9	6.1	96.7
T8	6.9	7.0	116.9	57.2	57.0	99.7	6.2	5.8	101.6
V1		4.8			59.3			5.9	
X2	6.4	6.4	108.5	56.8	56.7	99.0	6.0	5.7	98.4
Y0		6.0			56.8			6.7	
KPPD-G	5.9	5.9	100.0	57.4	57.4	100.0	6.3	6.1	103.3

Notes A and B are given in the appendix.

Table I (cont.)

AVERAGES OF MILL QUALITY DATA FOR JUL-AUG 1994

Grocery Bag

57 #

Code	Apparent Density lbs/pt			Porosity s/100 cc			Burst psig		
	Cur Avg	Cum Avg	Ind *B	Cur Avg	Cum Avg	Ind *B	Cur Avg	Cum Avg	Ind *B
A8	9.3	9.3	97.9	11.4	12.2	75.5	47.0	49.7	97.3
B3	8.5	8.9	89.5	12.2	12.6	80.8	57.3	56.9	118.6
B4	9.1	9.3	95.8	14.9	13.1	98.7	40.6	38.6	84.1
E0	9.3	9.7	97.9	6.0	9.4	39.7	45.0	48.6	93.2
I3	8.2	8.3	86.3				45.3	42.1	93.8
S9	9.9	9.6	104.2	9.0	6.3	59.6	37.8	38.6	78.3
T8	9.2	9.8	96.8	34.2	29.5	226.5	59.0	55.9	122.2
V1		10.0			16.7			53.7	
X2	9.6	10.0	101.1	19.4	19.6	128.5	52.0	54.6	107.7
Y0		8.5			4.6			40.8	
KPPD-G	9.1	9.5	95.8	15.3	15.1	101.3	47.4	48.3	98.1

Note B is given in the appendix.

Table I (cont.)

AVERAGES OF MILL QUALITY DATA FOR JUL-AUG 1994				Grocery Bag		57 #
Code	MD Tear g/sheet		Ind *B	CD Tear g/sheet		Ind *B
	Cur Avg	Cum Avg		Cur Avg	Cum Avg	
A8	121.3	122.0	95.9	162.6	158.5	112.3
B3	111.0	114.5	87.7	138.0	144.0	95.3
B4	119.2	120.2	94.2	141.6	136.5	97.8
E0	139.0	131.3	109.9	135.0	142.3	93.2
I3	155.6	153.6	123.0	150.9	151.6	104.2
S9	127.0	129.5	100.4	130.0	142.3	89.8
T8	121.0	123.1	95.7	145.0	136.7	100.1
V1		137.0			152.7	
X2	115.5	108.6	91.3	141.5	140.5	97.7
Y0		140.6			129.6	
KPPD-G	126.8	126.5	100.2	145.1	144.8	100.2

Note B is given in the appendix.

Table I (cont.)

AVERAGES OF MILL QUALITY DATA FOR JUL-AUG 1994

Grocery Bag

57 #

Code	MD Tensile lb/in			CD Tensile lb/in		
	Cur Avg	Cum Avg	Ind *B	Cur Avg	Cum Avg	Ind *B
B3	45.1	46.8	110.5	18.1	17.8	90.5
B4	36.6	36.0	89.7	17.9	19.2	89.5
E0	40.0	37.5	98.0	17.0	18.5	85.0
S9	38.6	37.8	94.6	20.4	18.2	102.0
T8	41.9	40.5	102.7	21.8	22.9	109.0
V1		44.3			21.4	
X2	45.0	46.9	110.3	20.1	20.2	100.5
Y0		35.1			22.0	
KPPD-G	41.1	40.8	100.7	19.2	20.0	96.0

Note B is given in the appendix.

Table II

AVERAGES OF MILL QUALITY DATA FOR SEP-OCT 1994 Grocery Bag 57 #

Code	Moist @ reel Percent			Adjusted Basis Weight *A Lbs/M Sq Ft			Thickness mils		
	Cur Avg	Cum Avg	Ind *B	Cur Avg	Cum Avg	Ind *B	Cur Avg	Cum Avg	Ind *B
A8	5.5	5.3	93.2	56.9	57.2	99.1	6.2	6.1	101.6
B3	6.5	6.7	110.2	56.5	56.7	98.4	5.8	6.2	95.1
B4	5.4	5.3	91.5	58.1	58.0	101.2	6.0	6.2	98.4
E0	6.4	6.6	108.5	57.5	57.6	100.2	6.0	6.0	98.4
F2	5.6	5.6	94.9	56.8	56.8	99.0	6.4	6.4	104.9
I3	5.8	5.7	98.3	57.4	56.9	100.0	7.0	6.9	114.8
S9	5.1	5.0	86.4	59.5	58.6	103.7	6.0	6.1	98.4
T8	7.0	7.0	118.6	55.9	56.9	97.4	5.5	5.8	90.2
V1		4.8			59.3			5.9	
X2	6.4	6.4	108.5	57.3	56.9	99.8	5.6	5.7	91.8
Y0		6.0			56.8			6.7	
KPPD-G	5.8	5.9	98.3	57.5	57.4	100.2	6.1	6.1	100.0

Notes A and B are given in the appendix.

Table II (cont.)

AVERAGES OF MILL QUALITY DATA FOR SEP-OCT 1994						Grocery Bag		57 #	
Code	Apparent Density lbs/pt			Porosity s/100 cc			Burst psig		
	Cur Avg	Cum Avg	Ind *B	Cur Avg	Cum Avg	Ind *B	Cur Avg	Cum Avg	Ind *B
A8	9.3	9.3	97.9	14.3	12.6	94.1	52.7	50.3	110.3
B3	9.8	9.2	103.2	8.1	11.1	53.3	54.3	56.0	113.6
B4	9.7	9.4	102.1	16.2	13.9	106.6	40.1	39.0	83.9
E0	9.6	9.7	101.1	10.0	9.5	65.8	44.0	48.0	92.1
F2	9.0	9.0	94.7	11.9	11.9	78.3			
I3	8.2	8.3	86.3				44.5	42.7	93.1
S9	9.9	9.7	104.2	6.5	6.4	42.8	38.1	38.5	79.7
T8	10.2	9.9	107.4	38.8	30.7	255.3	46.3	54.7	96.9
V1		10.0			16.7			53.7	
X2	10.3	10.0	108.4	23.2	20.3	152.6	50.6	53.8	105.9
Y0		8.5			4.6			40.8	
KPPD-G	9.5	9.5	100.0	15.5	15.2	102.0	45.9	47.8	96.0

Note B is given in the appendix.

Table II (cont.)

AVERAGES OF MILL QUALITY DATA FOR SEP-OCT 1994 Grocery Bag 57 #

Code	MD Tear g/sheet			CD Tear g/sheet		
	Cur Avg	Cum Avg	Ind *B	Cur Avg	Cum Avg	Ind *B
A8	113.3	120.2	89.3	150.9	157.0	105.2
B3	119.0	116.0	93.8	143.0	143.7	99.7
B4	127.8	122.4	100.7	141.3	138.1	98.5
E0	135.0	131.8	106.4	134.0	141.3	93.4
F2	128.9	128.9	101.6	125.9	125.9	87.7
I3	151.5	153.1	119.4	154.9	152.4	107.9
S9	128.0	129.1	100.9	133.5	140.1	93.0
T8	127.0	123.6	100.1	130.0	135.9	90.6
V1		137.0			152.7	
X2	120.5	111.0	95.0	132.5	138.9	92.3
Y0		140.6			129.6	
KPPD-G	128.1	126.9	100.9	139.0	143.5	96.9

Note B is given in the appendix.

Table II (cont.)

AVERAGES OF MILL QUALITY DATA FOR SEP-OCT 1994

Grocery Bag

57 #

Code	MD Tensile lb/in			CD Tensile lb/in		
	Cur Avg	Cum Avg	Ind *B	Cur Avg	Cum Avg	Ind *B
B3	41.4	45.0	102.0	18.4	18.0	91.5
B4	38.9	36.8	95.8	18.3	18.9	91.0
E0	36.0	37.3	88.7	18.0	18.4	89.6
F2	38.5	38.5	94.8	27.4	27.4	136.3
S9	37.9	37.8	93.3	18.6	18.3	92.5
T8	38.1	41.5	93.8	21.6	22.8	107.5
V1		44.3			21.4	
X2	41.5	45.8	102.2	22.7	20.7	112.9
Y0		35.1			22.0	
KPPD-G	39.0	40.6	96.1	20.5	20.1	102.0

Note B is given in the appendix.

Table III

AVERAGES OF MILL QUALITY DATA FOR NOV-DEC 1994 Grocery Bag 57 #

Code	Moist @ reel Percent			Adjusted Basis Weight *A Lbs/M Sq Ft			Thickness mils		
	Cur Avg	Cum Avg	Ind *B	Cur Avg	Cum Avg	Ind *B	Cur Avg	Cum Avg	Ind *B
A8	5.4	5.3	91.5	57.3	57.2	99.8	6.4	6.2	104.9
B3	6.5	6.7	110.2	56.4	56.6	98.3	5.7	6.1	93.4
B4	5.7	5.4	96.6	58.1	58.0	101.2	6.3	6.2	103.3
E0	6.3	6.5	106.8	57.7	57.7	100.5	6.2	6.0	101.6
F2		5.6			56.8			6.4	
I3	5.7	5.7	96.6	57.3	57.0	99.8	7.0	6.9	114.8
S9	4.9	4.9	83.1	58.9	58.7	102.6	6.1	6.1	100.0
T8		7.0			56.9			5.8	
V1		4.8			59.3			5.9	
X2	6.4	6.4	108.5	56.6	56.8	98.6	5.5	5.7	90.2
Y0	6.0	6.0	101.7	56.9	56.9	99.1	6.8	6.7	111.5
KPPD-G	5.8	5.9	98.3	57.6	57.4	100.3	6.3	6.1	103.3

Notes A and B are given in the appendix.

Table III (cont.)

AVERAGES OF MILL QUALITY DATA FOR NOV-DEC 1994							Grocery Bag		57 #
Code	Apparent Density lbs/pt			Porosity s/100 cc			Burst psig		
	Cur Avg	Cum Avg	Ind *B	Cur Avg	Cum Avg	Ind *B	Cur Avg	Cum Avg	Ind *B
A8	9.0	9.3	95.7	10.4	12.4	71.7	47.2	50.0	99.8
B3	9.9	9.4	105.3	8.4	10.4	57.9	53.3	55.4	112.7
B4	9.3	9.4	98.9	18.4	14.5	126.9	38.2	38.9	80.8
E0	9.4	9.6	100.0	9.5	9.5	65.5	46.5	47.7	98.3
F2		9.0			11.9				
I3	8.2	8.3	87.2				42.1	42.6	89.0
S9	9.8	9.7	104.3	5.5	6.2	37.9	39.9	38.8	84.4
T8		9.9			30.7			54.7	
V1		10.0			16.7			53.7	
X2	10.3	10.1	109.6	18.6	20.2	128.3	45.2	53.0	95.6
Y0	8.4	8.5	89.4	5.7	5.2	39.3	44.8	42.8	94.7
KPPD-G	9.2	9.4	97.9	10.2	14.5	70.3	44.2	47.3	93.4

Note B is given in the appendix.

Table III (cont.)

AVERAGES OF MILL QUALITY DATA FOR NOV-DEC 1994				Grocery Bag		57 #
Code	MD Tear g/sheet			CD Tear g/sheet		
	Cur Avg	Cum Avg	Ind *B	Cur Avg	Cum Avg	Ind *B
A8	117.4	120.0	92.4	155.6	156.9	108.7
B3	113.0	115.3	89.0	147.0	144.5	102.7
B4	126.7	122.9	99.8	119.8	135.5	83.7
E0	126.0	130.6	99.2	144.0	141.8	100.6
F2		128.9			125.9	
I3	143.0	151.1	112.6	146.7	151.3	102.4
S9	128.0	128.9	100.8	142.5	140.6	99.5
T8		123.6			135.9	
V1		137.0			152.7	
X2	114.0	111.3	89.8	124.0	137.6	86.6
Y0	137.0	138.8	107.9	138.9	134.2	97.0
KPPD-G	127.5	127.0	100.4	141.1	143.2	98.5

Note B is given in the appendix.

Table III (cont.)

AVERAGES OF MILL QUALITY DATA FOR NOV-DEC 1994

Grocery Bag

57 #

Code	MD Tensile lb/in			CD Tensile lb/in		
	Cur Avg	Cum Avg	Ind *B	Cur Avg	Cum Avg	Ind *B
B3	41.6	44.2	103.2	18.3	18.1	90.6
B4	34.5	36.5	85.6	23.2	19.4	114.9
E0	38.0	37.4	94.3	20.0	18.6	99.0
F2		38.5			27.4	
S9	39.3	38.1	97.5	19.0	18.4	94.1
T8		41.5			22.8	
V1		44.3			21.4	
X2	38.3	45.1	95.0	22.8	20.9	112.9
Y0	37.3	36.2	92.6	22.9	22.5	113.4
KPPD-G	38.3	40.3	95.0	20.7	20.2	102.5

Note B is given in the appendix.

Table IV

AVERAGES OF MILL QUALITY DATA FOR JUL-AUG 1994 Grocery Bag 70 #

Code	Moist @ reel Percent			Adjusted Basis Weight *A Lbs/M Sq Ft			Thickness mils		
	Cur Avg	Cum Avg	Ind *B	Cur Avg	Cum Avg	Ind *B	Cur Avg	Cum Avg	Ind *B
A8	6.0	5.7	93.8	69.8	69.5	99.6	7.6	7.5	101.3
B3		6.4			70.2			7.2	
B4	5.8	5.9	90.6	71.0	70.4	101.3	7.9	7.4	105.3
E0	6.1	6.5	95.3	70.8	70.5	101.0	7.5	7.5	100.0
H6	7.9	7.9	123.4				8.7	8.7	116.0
I3	5.9	5.8	92.2	70.6	70.5	100.7	8.3	8.3	110.7
T8		7.0			68.4			6.6	
W5	7.6	7.5	118.8	69.3	69.6	98.9	7.7	7.6	102.7
X2	6.5	6.6	101.6	70.7	71.0	100.9	7.0	7.1	93.3
Y0		6.5			69.8			8.1	
KPPD-G	6.5	6.4	101.6	70.4	70.1	100.4	7.8	7.5	104.0

Notes A and B are given in the appendix.

Table IV (cont.)

AVERAGES OF MILL QUALITY DATA FOR JUL-AUG 1994						Grocery Bag		70 #	
Code	Apparent Density lbs/pt			Porosity s/100 cc			Burst psig		
	Cur Avg	Cum Avg	Ind *B	Cur Avg	Cum Avg	Ind *B	Cur Avg	Cum Avg	Ind *B
A8	9.3	9.2	97.9	8.6	7.1	61.4	59.7	61.0	99.5
B3		9.8			9.8			62.2	
B4	9.0	9.6	94.7	10.1	13.0	72.1	49.1	51.0	81.8
E0	9.5	9.4	100.0	8.5	8.7	60.7	61.0	58.9	101.7
H6							50.5	50.5	84.2
I3	8.5	8.5	89.5				57.3	55.0	95.5
T8		10.4			27.3			62.7	
W5	9.0	9.2	94.7	11.0	9.0	78.6	49.0	51.5	81.7
X2	10.2	10.0	107.4	19.6	19.2	140.0	67.7	72.3	112.8
Y0		8.6			4.0			58.7	
KPPD-G	9.3	9.5	97.9	11.8	14.0	84.3	57.5	60.0	95.8

Note B is given in the appendix.

Table IV (cont.)

AVERAGES OF MILL QUALITY DATA FOR JUL-AUG 1994				Grocery Bag		70 #
Code	MD Tear g/sheet		Ind *B	CD Tear g/sheet		Ind *B
	Cur Avg	Cum Avg		Cur Avg	Cum Avg	
A8	151.6	156.1	93.3	216.5	214.0	115.0
B3		160.0			213.0	
B4	160.9	160.0	99.1	190.6	179.2	101.3
E0	152.5	158.6	93.9	183.5	180.1	97.5
H6	160.0	160.0	98.5			
I3	197.7	194.2	121.7	194.2	193.0	103.2
T8		152.5			165.5	
W5	163.0	156.0	100.4	199.0	205.5	105.7
X2	149.5	154.9	92.1	177.0	184.8	94.0
Y0		167.8			154.8	
KPPD-G	162.2	162.4	99.9	193.2	188.2	102.7

Note B is given in the appendix.

Table IV (cont.)

AVERAGES OF MILL QUALITY DATA FOR JUL-AUG 1994 Grocery Bag 70 #

Code	MD Tensile lb/in			CD Tensile lb/in		
	Cur Avg	Cum Avg	Ind *B	Cur Avg	Cum Avg	Ind *B
B3		51.3			19.0	
B4	43.7	49.9	86.4	22.2	23.6	90.6
E0	48.5	45.9	95.8	21.5	21.6	87.8
T8		49.1			25.7	
W5	41.0	42.0	81.0	17.0	19.0	69.4
X2	60.8	60.0	120.2	27.9	27.9	113.9
Y0		48.2			31.6	
KPPD-G	50.6	50.6	100.0	23.0	24.5	93.9

Note B is given in the appendix.

Table V

AVERAGES OF MILL QUALITY DATA FOR SEP-OCT 1994							Grocery Bag		70 #
Code	Moist @ reel Percent			Adjusted Basis Weight *A Lbs/M Sq Ft			Thickness mils		
	Cur Avg	Cum Avg	Ind *B	Cur Avg	Cum Avg	Ind *B	Cur Avg	Cum Avg	Ind *B
A8	6.0	5.8	93.8	69.5	69.5	99.1	7.7	7.6	102.7
B3		6.4			70.2			7.2	
B4	5.8	5.9	90.6	71.5	70.7	102.0	7.3	7.4	97.3
E0	6.5	6.5	101.6	70.3	70.5	100.3	7.5	7.5	100.0
H6	8.0	7.9	125.0				8.4	8.5	112.0
I3	5.7	5.8	89.1	70.3	70.5	100.3	8.3	8.3	110.7
T8	7.1	7.0	110.9	67.9	68.3	96.9	6.8	6.6	90.7
W5		7.5			69.6			7.6	
X2	6.5	6.6	101.6	70.7	71.0	100.9	6.7	7.0	89.3
Y0		6.5			69.8			8.1	
KPPD-G	6.5	6.4	101.6	70.2	70.1	100.1	7.5	7.5	100.0

Notes A and B are given in the appendix.

Table V (cont.)

AVERAGES OF MILL QUALITY DATA FOR SEP-OCT 1994						Grocery Bag		70 #	
Code	Apparent Density lbs/pt			Porosity s/100 cc			Burst psig		
	Cur Avg	Cum Avg	Ind *B	Cur Avg	Cum Avg	Ind *B	Cur Avg	Cum Avg	Ind *B
A8	9.0	9.2	94.7	6.8	7.1	47.9	58.7	60.6	98.7
B3		9.8			9.8			62.2	
B4	9.8	9.6	103.2	14.3	13.4	100.7	51.5	51.1	86.6
E0	9.4	9.4	98.9	8.0	8.6	56.3	55.0	58.0	92.4
H6							51.5	51.0	86.6
I3	8.5	8.5	89.5				56.5	55.1	95.0
T8	10.0	10.4	105.3	25.9	27.1	182.4	64.9	63.0	109.1
W5		9.2			9.0			51.5	
X2	10.6	10.1	111.6	25.4	20.5	178.9	67.6	71.4	113.6
Y0		8.6			4.0			58.7	
KPPD-G	9.6	9.5	101.1	15.0	14.2	105.6	57.5	59.5	96.6

Note B is given in the appendix.

Table V (cont.)

AVERAGES OF MILL QUALITY DATA FOR SEP-OCT 1994 Grocery Bag 70 #

Code	MD Tear g/sheet			CD Tear g/sheet		
	Cur Avg	Cum Avg	Ind *B	Cur Avg	Cum Avg	Ind *B
A8	152.7	155.4	94.4	215.3	214.2	114.8
B3		160.0			213.0	
B4	158.2	159.5	97.8	177.5	178.7	94.6
E0	153.5	157.4	94.9	183.0	180.8	97.5
H6	162.0	161.0	100.2			
I3	179.8	192.4	111.2	184.5	192.0	98.3
T8	185.0	157.1	114.4	194.0	169.6	103.4
W5		156.0			205.5	
X2	145.0	152.9	89.7	158.0	179.4	84.2
Y0		167.8			154.8	
KPPD-G	159.0	161.7	98.3	184.6	187.6	98.4

Note B is given in the appendix.

Table V (cont.)

AVERAGES OF MILL QUALITY DATA FOR SEP-OCT 1994 Grocery Bag 70 #

Code	MD Tensile lb/in			CD Tensile lb/in		
	Cur Avg	Cum Avg	Ind *B	Cur Avg	Cum Avg	Ind *B
B3		51.3			19.0	
B4	46.9	49.1	93.1	22.8	23.4	91.9
E0	46.0	45.9	91.3	22.0	21.7	88.7
T8	42.7	48.2	84.7	31.7	26.5	127.8
W5		42.0			19.0	
X2	58.9	59.8	116.9	29.8	28.3	120.2
Y0		48.2			31.6	
KPPD-G	49.5	50.4	98.2	25.8	24.8	104.0

Note B is given in the appendix.

Table VI

AVERAGES OF MILL QUALITY DATA FOR NOV-DEC 1994							Grocery Bag		70 #
Code	Moist @ reel Percent			Adjusted Basis Weight *A Lbs/M Sq Ft			Thickness mils		
	Cur Avg	Cum Avg	Ind *B	Cur Avg	Cum Avg	Ind *B	Cur Avg	Cum Avg	Ind *B
A8	6.0	5.8	93.8	69.9	69.6	99.6	7.6	7.6	100.0
B3		6.4			70.2			7.2	
B4	5.6	5.8	87.5	71.3	70.8	101.6	7.1	7.3	93.4
E0	6.4	6.5	100.0	70.5	70.5	100.4	7.8	7.6	102.6
H6	8.0	8.0	125.0				8.6	8.6	113.2
I3		5.8			70.5			8.3	
T8		7.0			68.3			6.6	
W5	6.2	6.8	96.9	70.9	70.3	101.0	7.9	7.7	103.9
X2		6.6			71.0			7.0	
Y0		6.5			69.8			8.1	
KPPD-G	6.5	6.4	101.6	70.6	70.2	100.6	7.9	7.6	103.9

Notes A and B are given in the appendix.

Table VI (cont.)

AVERAGES OF MILL QUALITY DATA FOR NOV-DEC 1994						Grocery Bag		70 #	
Code	Apparent Density lbs/pt			Porosity s/100 cc			Burst psig		
	Cur Avg	Cum Avg	Ind *B	Cur Avg	Cum Avg	Ind *B	Cur Avg	Cum Avg	Ind *B
A8	9.2	9.2	96.8	8.9	7.4	64.5	58.5	60.2	99.7
B3		9.8			9.8			62.2	
B4	10.1	9.7	106.3	20.5	14.3	148.6	49.8	51.0	84.8
E0	9.0	9.3	94.7	7.0	8.4	50.7	54.0	57.6	92.0
H6							51.0	51.0	86.9
I3		8.5						55.1	
T8		10.4			27.1			63.0	
W5	9.0	9.1	94.7	9.5	9.3	68.8	52.0	51.8	88.6
X2		10.1			20.5			71.4	
Y0		8.6			4.0			58.7	
KPPD-G	9.3	9.5	97.9	10.7	13.8	77.5	53.3	58.7	90.8

Note B is given in the appendix.

Table VI (cont.)

AVERAGES OF MILL QUALITY DATA FOR NOV-DEC 1994 Grocery Bag 70 #

Code	MD Tear g/sheet			CD Tear g/sheet		
	Cur Avg	Cum Avg	Ind *B	Cur Avg	Cum Avg	Ind *B
A8	152.5	154.9	94.5	211.9	213.8	113.2
B3		160.0			213.0	
B4	152.3	158.6	94.4	181.2	179.0	96.8
E0	163.0	158.0	101.0	168.0	179.5	89.7
H6	165.0	162.3	102.2			
I3		192.4			192.0	
T8		157.1			169.6	
W5	161.0	158.5	99.8	165.5	185.5	88.4
X2		152.9			179.4	
Y0		167.8			154.8	
KPPD-G	159.0	161.4	98.5	184.0	187.2	98.3

Note B is given in the appendix.

Table VI (cont.)

AVERAGES OF MILL QUALITY DATA FOR NOV-DEC 1994 Grocery Bag 70 #

Code	MD Tensile lb/in			CD Tensile lb/in		
	Cur Avg	Cum Avg	Ind *B	Cur Avg	Cum Avg	Ind *B
B3		51.3			19.0	
B4	47.1	48.8	94.6	24.1	23.5	98.0
E0	46.0	45.9	92.4	22.0	21.7	89.4
T8		48.2			26.5	
W5	41.0	41.5	82.3	22.5	20.8	91.5
X2		59.8			28.3	
Y0		48.2			31.6	
KPPD-G	43.8	49.8	88.0	22.8	24.6	92.7

Note B is given in the appendix.

Table VII

AVERAGES OF MILL QUALITY DATA FOR JUL-AUG 1994 Grocery Bag 75 #

Code	Moist @ reel Percent			Adjusted Basis Weight *A Lbs/M Sq Ft			Thickness mils		
	Cur Avg	Cum Avg	Ind *B	Cur Avg	Cum Avg	Ind *B	Cur Avg	Cum Avg	Ind *B
A8	6.1	5.8	95.3	74.8	74.5	99.5	8.3	8.1	102.5
B4	5.8	5.8	90.6	75.8	75.4	100.8	7.7	7.8	95.1
E0	6.5	6.7	101.6	75.6	75.5	100.5	8.1	8.1	100.0
H6	8.0	8.0	125.0				9.0	9.0	111.1
I3	5.6	5.8	87.5	76.3	77.3	101.5	9.5	9.0	117.3
T8		7.0			73.1			7.2	
W5	7.3	7.5	114.1	75.2	74.9	100.0	8.2	8.3	101.2
X2	6.5	6.4	101.6	74.5	75.3	99.1	7.2	7.3	88.9
KPPD-G	6.5	6.4	101.6	75.5	75.2	100.4	8.4	8.1	103.7

Notes A and B are given in the appendix.

Table VII (cont.)

AVERAGES OF MILL QUALITY DATA FOR JUL-AUG 1994						Grocery Bag		75 #	
Code	Apparent Density lbs/pt			Porosity s/100 cc			Burst psig		
	Cur Avg	Cum Avg	Ind *B	Cur Avg	Cum Avg	Ind *B	Cur Avg	Cum Avg	Ind *B
A8	9.1	9.2	96.8	7.8	7.5	56.1	63.8	66.6	98.6
B4	9.8	9.7	104.3	16.6	15.9	119.4	54.4	54.2	84.1
E0	9.4	9.3	100.0	6.5	7.3	46.8	62.5	62.6	96.6
H6							54.0	54.0	83.5
I3	8.1	8.6	86.2				62.3	62.4	96.3
T8		10.1			25.1			74.8	
W5	9.2	9.0	97.9	15.0	10.0	107.9	61.0	60.0	94.3
X2	10.4	10.3	110.6	19.9	20.7	143.2	66.7	74.9	103.1
KPPD-G	9.2	9.4	97.9	12.1	13.9	87.1	60.2	64.7	93.0

Note B is given in the appendix.

Table VII (cont.)

AVERAGES OF MILL QUALITY DATA FOR JUL-AUG 1994				Grocery Bag		75 #
Code	MD Tear g/sheet		Ind *B	CD Tear g/sheet		Ind *B
	Cur Avg	Cum Avg		Cur Avg	Cum Avg	
A8	168.9	171.4	95.0	238.7	238.6	114.7
B4	167.9	167.9	94.4	188.5	188.7	90.6
E0	164.0	170.4	92.2	197.0	197.3	94.7
H6	171.0	171.0	96.2			
I3	219.0	218.3	123.2	234.9	225.5	112.9
T8		169.2			185.5	
W5	161.0	169.0	90.6	201.0	202.5	96.6
X2	170.0	165.5	95.6	192.0	191.5	92.3
KPPD-G	176.1	177.8	99.0	211.1	208.1	101.4

Note B is given in the appendix.

Table VII (cont.)

AVERAGES OF MILL QUALITY DATA FOR JUL-AUG 1994 Grocery Bag 75 #

Code	MD Tensile lb/in			CD Tensile lb/in		
	Cur Avg	Cum Avg	Ind *B	Cur Avg	Cum Avg	Ind *B
B4	47.1	46.9	90.9	23.0	22.2	91.3
E0	53.5	50.4	103.3	22.5	23.1	89.3
T8		52.0			29.3	
W5	54.0	52.0	104.2	19.0	20.0	75.4
X2	56.8	60.1	109.7	30.6	29.0	121.4
KPPD-G	52.0	51.8	100.4	23.4	25.2	92.9

Note B is given in the appendix.

Table VIII

AVERAGES OF MILL QUALITY DATA FOR SEP-OCT 1994				Grocery Bag			75 #		
Code	Moist @ reel Percent			Adjusted Basis Weight *A Lbs/M Sq Ft			Thickness mils		
	Cur Avg	Cum Avg	Ind *B	Cur Avg	Cum Avg	Ind *B	Cur Avg	Cum Avg	Ind *B
A8	5.9	5.8	92.2	74.3	74.5	98.8	8.3	8.1	102.5
B4	5.8	5.8	90.6	76.7	75.7	102.0	7.4	7.7	91.4
E0	6.7	6.7	104.7	75.0	75.4	99.7	8.4	8.2	103.7
H6	8.0	8.0	125.0				9.3	9.2	114.8
I3	5.7	5.8	89.1	77.4	77.3	102.9	9.5	9.1	117.3
T8		7.0			73.1			7.2	
W5		7.5			74.9			8.3	
X2	6.3	6.3	98.4	74.8	75.2	99.5	7.0	7.3	86.4
KPPD-G	6.5	6.4	101.6	75.5	75.2	100.4	8.3	8.1	102.5

Notes A and B are given in the appendix.

Table VIII (cont.)

AVERAGES OF MILL QUALITY DATA FOR SEP-OCT 1994							Grocery Bag		75 #
Code	Apparent Density lbs/pt			Porosity s/100 cc			Burst psig		
	Cur Avg	Cum Avg	Ind *B	Cur Avg	Cum Avg	Ind *B	Cur Avg	Cum Avg	Ind *B
A8	9.0	9.2	95.7	6.2	7.2	45.6	60.7	65.4	95.4
B4	10.4	9.9	110.6	18.2	16.6	133.8	54.7	54.3	86.0
E0	8.9	9.2	94.7	5.5	6.9	40.4	60.5	62.1	95.1
H6							54.5	54.3	85.7
I3	8.1	8.5	86.2				58.5	61.9	92.0
T8		10.1			25.1			74.8	
W5		9.0			10.0			60.0	
X2	10.7	10.4	113.8	26.8	21.9	197.1	70.8	74.1	111.3
KPPD-G	9.4	9.4	100.0	12.3	13.6	90.4	59.0	63.6	92.8

Note B is given in the appendix.

Table VIII (cont.)

AVERAGES OF MILL QUALITY DATA FOR SEP-OCT 1994 Grocery Bag 75 #

Code	MD Tear g/sheet			CD Tear g/sheet		
	Cur Avg	Cum Avg	Ind *B	Cur Avg	Cum Avg	Ind *B
A8	171.6	171.4	96.3	248.9	240.7	119.4
B4	169.7	168.4	95.2	185.6	187.6	89.1
E0	188.5	174.4	105.8	193.0	196.3	92.6
H6	171.0	171.0	96.0			
I3	241.1	221.1	135.3	234.1	226.6	112.3
T8		169.2			185.5	
W5		169.0			202.5	
X2	158.0	164.0	88.7	188.0	190.8	90.2
KPPD-G	180.1	178.2	101.1	209.6	208.4	100.6

Note B is given in the appendix.

Table VIII (cont.)

AVERAGES OF MILL QUALITY DATA FOR SEP-OCT 1994 Grocery Bag 75 #

Code	MD Tensile lb/in			CD Tensile lb/in		
	Cur Avg	Cum Avg	Ind *B	Cur Avg	Cum Avg	Ind *B
B4	50.1	47.8	97.3	27.9	23.8	110.7
E0	48.5	50.0	94.2	23.0	23.1	91.3
T8		52.0			29.3	
W5		52.0			20.0	
X2		60.1			29.0	
KPPD-G	49.3	51.5	95.7	25.4	25.2	100.8

Note B is given in the appendix.

Table IX

AVERAGES OF MILL QUALITY DATA FOR NOV-DEC 1994 Grocery Bag 75 #

Code	Moist @ reel Percent			Adjusted Basis Weight *A Lbs/M Sq Ft			Thickness mils		
	Cur Avg	Cum Avg	Ind *B	Cur Avg	Cum Avg	Ind *B	Cur Avg	Cum Avg	Ind *B
A8	6.3	5.9	98.4	74.5	74.5	99.1	8.2	8.1	100.0
B4	5.7	5.8	89.1	75.1	75.6	99.9	7.6	7.7	92.7
E0	6.5	6.7	101.6	75.5	75.4	100.4	8.3	8.2	101.2
H6	7.9	8.0	123.4				9.3	9.2	113.4
I3		5.8			77.3			9.1	
T8		7.0			73.1			7.2	
W5	6.0	6.8	93.8	76.2	75.5	101.3	8.6	8.4	104.9
X2		6.3			75.2			7.3	
KPPD-G	6.3	6.4	98.4	75.3	75.2	100.1	8.4	8.2	102.4

Notes A and B are given in the appendix.

Table IX (cont.)

AVERAGES OF MILL QUALITY DATA FOR NOV-DEC 1994						Grocery Bag		75 #	
Code	Apparent Density lbs/pt			Porosity s/100 cc			Burst psig		
	Cur Avg	Cum Avg	Ind *B	Cur Avg	Cum Avg	Ind *B	Cur Avg	Cum Avg	Ind *B
A8	9.1	9.2	96.8	5.8	7.0	44.3	60.0	64.5	95.8
B4	9.9	9.9	105.3	18.4	17.0	140.5	54.7	54.4	87.4
E0	9.1	9.2	96.8	8.0	7.0	61.1	55.0	61.4	87.9
H6							54.0	54.2	86.3
I3		8.5						61.9	
T8		10.1			25.1			74.8	
W5	8.9	9.0	94.7	7.5	8.8	57.3	55.0	57.5	87.9
X2		10.4			21.9			74.1	
KPPD-G	9.2	9.4	97.9	10.2	13.1	77.9	56.1	62.6	89.6

Note B is given in the appendix.

Table IX (cont.)

AVERAGES OF MILL QUALITY DATA FOR NOV-DEC 1994				Grocery Bag		75 #
Code	MD Tear g/sheet		Ind *B	CD Tear g/sheet		Ind *B
	Cur Avg	Cum Avg		Cur Avg	Cum Avg	
A8	166.7	170.6	94.4	239.9	240.5	115.3
B4	172.5	169.3	97.7	197.2	189.0	94.8
E0	160.0	173.0	90.6	174.0	194.1	83.7
H6	171.0	171.0	96.8			
I3		221.1			226.6	
T8		169.2			185.5	
W5	161.0	165.0	91.2	189.5	196.0	91.1
X2		164.0			190.8	
KPPD-G	166.4	176.6	94.2	205.0	208.0	98.6

Note B is given in the appendix.

Table IX (cont.)

AVERAGES OF MILL QUALITY DATA FOR NOV-DEC 1994

Grocery Bag

75 #

Code	MD Tensile lb/in			CD Tensile lb/in		
	Cur Avg	Cum Avg	Ind *B	Cur Avg	Cum Avg	Ind *B
B4	45.1	47.5	89.3	24.6	24.0	98.4
E0	44.0	49.4	87.1	25.0	23.3	100.0
T8		52.0			29.3	
W5	43.0	47.5	85.1	22.5	21.3	90.0
X2		60.1			29.0	
KPPD-G	43.8	50.5	86.7	23.8	25.0	95.2

Note B is given in the appendix.

Table X
Data on Conditioning and Testing Environments

Mill Code	Preconditioned	Conditioning Before Testing		
		Temp. (Deg. C)	RH (%)	Time (min.)
A8	No	22	50	10
B3	No	21	50	20
B4	No	22	50	5
E0	No	22	50	10
F2	Yes			
H6	No			
I3	No	22	50	1440
S9	No	22	50	15
T8	No	21	50	20
W5	No	22	50	10
X2	No	21	50	20
Y0	No	22	50	5

Table XI
Data on Tear and Tensile Testing Variables

Mill Code	Tear Old	Tester New	Tensile Method		Tensile Test Variables		
			T404	T494	Length (in.)	Width (in.)	Speed (in./min.)
A8		x		x	7.1	1	2.0
B3		x		x	7.1	1	1.0
B4		x		x	6.0	1	2.0
E0		x		x	7.1	1	1.0
F2		x		x	7.1	1	1.0
H6							
I3		x		x	6.7	1	1.0
S9		x		x	8.0	1	2.0
T8		x		x	7.1	1	1.0
W5		x		x	7.1	1	1.0
X2		x		x	7.1	1	1.0
Y0		x		x	6.0	1	2.0

APPENDIX

NOTES A AND B USED IN TABULATIONS OF MILL DATA

Note A, used in the tables of mill data, defines the procedure for calculating adjusted basis weight. The adjusted basis weight is that corresponding to a moisture content of 7.25%, calculated as follows:

$$ABW = RBW [(100 - RMC) / (100 - 7.25)]$$

where: ABW = adjusted basis weight, RBW = reported basis weight, and RMC = reported moisture content.

Note B, used in the tables of mill data, defines the procedures for calculating either machine index or KPPD index. These indexes are the ratio of either the machine or KPPD current average to the KPPD cumulative average, calculated as follows:

$$MI = 100 (CMA/CUM KPPDA)$$

$$KPPDI = 100 (CKPPDA/CUM KPPDA)$$

where: MI = Machine Index, KPPDI = KPPD index.

CMA = current machine average for a specific physical property of a specific grocery bag paper grade obtained during the current period on a specific machine,

CKPPDA = current average of all machine averages for a specific physical property of a specific grocery bag paper grade obtained during the current period,

CUM KPPDA = the average CKPPD for the previous twelve months, including the current month.

CUM MA = the average CMA for the previous twelve months, including the current month.

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